

\*219IHSSF2018\*



DocumentID NONCD0002814

Site Name HANCOCK COUNTRY HAMS

DocumentType Progress/Monitoring Rpt (PRGMON)

RptSegment 1

DocDate 2/17/2011

DocRcvd 2/22/2011

Box SF2018

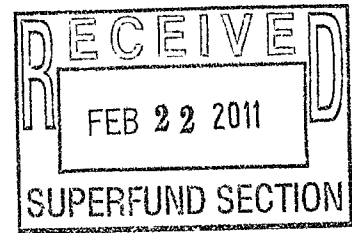
AccessLevel Public

Division Waste Management

Section Superfund

Program IHS (IHS)

DocCat Facility



**ANNUAL SITE MONITORING REPORT 2011  
FORMER HANCOCK COUNTRY HAMS  
3484 NC HIGHWAY 22 NORTH  
FRANKLINVILLE, NORTH CAROLINA**

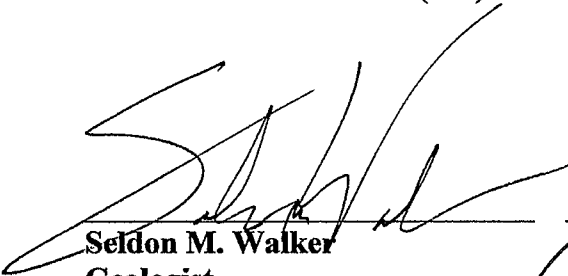
February 17, 2011

***Facility Owner/Operator, and Land Owner:***

**Smithfield Packing Company  
601 North Church Street  
Smithfield, VA 23430  
(757) 356-3131**

***Consultant:***

**Environmental Alliance, Inc.  
10993 S. Richardson Road, Suite 17  
Ashland, VA 23005  
(804) 752-3558**

  
**Seldon M. Walker  
Geologist**

  
**Jason S. Early, L.G. #2231  
Project Manager**





February 17, 2011

Ms. Ruth Debritto  
Smithfield Packing Co., Inc.  
601 North Church Street  
Smithfield, Virginia 23430

- *Engineering*
- *Remediation*
- *Consulting*

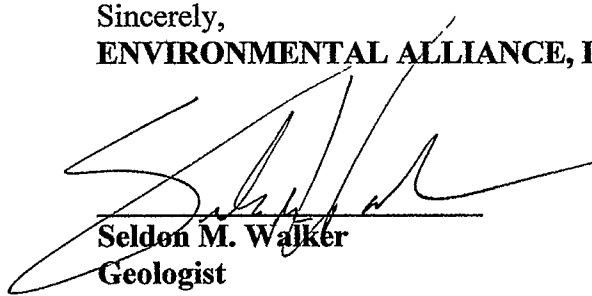
**Reference: Annual Site Monitoring Report 2011  
Former Hancock Country Hams  
3484 NC Highway 22 North  
Franklinville, North Carolina  
Environmental Alliance, Inc. Project # 2719A**

Dear Ms. Debritto:

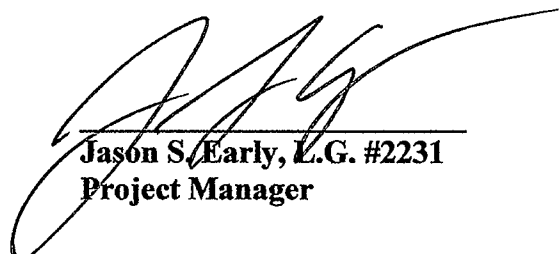
Environmental Alliance, Inc. (Alliance) is pleased to present our report of the surface water, groundwater, and soil sampling which took place at the referenced location.

Copies of this report have been forwarded to Mr. John Walch of the North Carolina Department of Environment and Natural Resources (NCDENR), Mr. George House, and Mr. Stanford Baird. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (804) 752-3558.

Sincerely,  
**ENVIRONMENTAL ALLIANCE, INC.**



**Seldon M. Walker**  
Geologist



**Jason S. Early, L.G. #2231**  
Project Manager

c: Mr. Stanford Baird  
Mr. George House  
Mr. John Walch, NCDENR

Attachment

*V:\Projects\2719 Smithfield\_Hancock\Reports\2011\Hancock2011AnnualMonitoringRpt-FINAL .doc*

**Virginia Office:** 10993 S. Richardson Road, Suite 17, Ashland, VA 23005 804-752-3558 804-752-3559 Fax

**Corporate Office:** 5341 Limestone Road Wilmington, DE 19808 302-234-4400 302-234-1535 Fax [www.envalliance.com](http://www.envalliance.com)

## HANCOCK COUNTRY HAMS SITE MONITORING REPORT

**Site Name and Location:** Hancock Country Hams  
3484 NC Highway 22 North, Franklinville, NC

**Latitude and Longitude:** 35° 46' 49" North; 79° 41' 40" West

**Land Use Category:** Commercial/Residential

**Responsible Parties:**

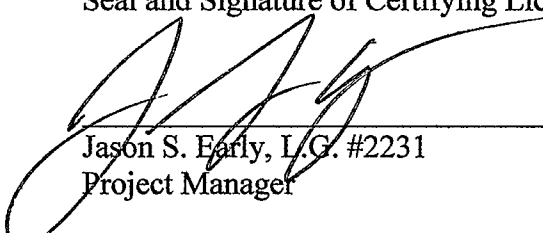
1. Gwaltney of Smithfield Ltd.  
601 North Church Street, Smithfield, VA 23430  
757.356.3131  
Attn. Mr. Rob Bogaard, V.P. of Operations
2. Lance, Inc.  
Post Office Box 32368  
Charlotte, NC 28232  
704.554.1421
3. Ms. Julia Hancock  
3456 NC Hwy 22 N.  
Franklinville, NC 27248

**Current Land Owner:** Smithfield Packing Co., Inc.  
601 North Church Street, Smithfield, VA 23430  
757.356.3131  
Attn. Mr. Rob Bogaard, Vice President of Operations

**Consultant:** Environmental Alliance, Inc.  
10993 S. Richardson Road, Suite 17, Ashland, VA 23005  
Attn.: Mr. Jason S. Early, L.G.  
804.752.3558

**Date of Report:** February 17, 2011

Seal and Signature of Certifying Licensed Geologist

  
Jason S. Early, L.G. #2231  
Project Manager



## TABLE OF CONTENTS

Section	Page Number
<b>1.0 BACKGROUND .....</b>	<b>1-1</b>
<b>2.0 PURPOSE.....</b>	<b>2-1</b>
<b>3.0 RECEPTORS .....</b>	<b>3-1</b>
<b>4.0 METHODS.....</b>	<b>4-1</b>
4.1 MONITORING AND RECOVERY WELL SAMPLING .....	4-1
4.2 RECOVERY WELL DISCRETE INTERVAL SAMPLING .....	4-1
4.3 WATER WELL SAMPLING.....	4-2
4.4 STREAM SAMPLING.....	4-2
4.5 SOIL SAMPLING .....	4-2
4.6 FIELD MEASUREMENTS.....	4-3
<b>5.0 RESULTS .....</b>	<b>5-1</b>
5.1 MONITORING WELLS .....	5-1
5.2 CONVENTIONAL SAMPLING OF RECOVERY WELLS.....	5-1
5.3 DISCRETE SAMPLING OF RECOVERY WELLS .....	5-1
5.4 SOIL SAMPLING .....	5-2
5.5 GROUNDWATER FLOW DIRECTION .....	5-2
5.6 PLUME GEOMETRY .....	5-3
<b>6.0 CONCLUSIONS .....</b>	<b>6-1</b>

## **TABLES**

Table 1	Properties Within 1,500 Feet of the Site with Water Wells
Table 2	Adjacent Property Owners
Table 3	Historical Monitoring and Recovery Well Sample Results
Table 4	Soil Sample Results: Chloride
Table 5	Historical Surface Water Sample Results
Table 6	Summary of Monitoring Well and Groundwater Elevation Data
Table 7	Monitoring Schedule

## **FIGURES**

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Water Supply Wells within 1,500 Feet of the Site
Figure 4	Topographic Relationship of Water Wells to the Site
Figure 5	Soil Chloride Concentrations: 1990
Figure 6	Soil Chloride Concentrations: 2011
Figure 7	Comparison of Chloride Results – Discrete Interval Sampling vs. Standard 3-Well Volume Purge
Figure 8	Groundwater Flow Map: January 17, 2011
Figure 9	Groundwater Analytical Data: January 2011

## **APPENDICES**

Appendix A	Laboratory Reports
Appendix B	Chloride Time Series Graphs

## 1.0 BACKGROUND

---

Environmental Alliance, Inc. (Alliance) has prepared this Annual Monitoring Report to document site monitoring activities performed during January 2011 at the former Hancock Country Hams Facility (the site). The site is located on the east side of the NC Hwy 22 approximately three miles south of Grays Chapel, Randolph County, North Carolina (Figure 1). The site is located in a rural, mostly undeveloped, area. The majority of the houses in the area are located along NC Hwy 22, north and south of the site, and along Cedar Forest Road, located approximately a 1/3 mile south of the site.

Westinghouse Environmental Services reported that four USTs were installed at the site in 1971. The tanks consisted of one-1,000 gallon gasoline UST, two-3,000 gallon gasoline USTs (nested together), and one-1,500 gallon gasoline UST. The UST locations are shown in Figure 2. All of the USTs were reportedly removed in 1986. Limited soil analysis data was collected from the UST excavations. Russnow, Kane, and Andrews collected samples from the South Well (SW), Ed Rhodes well (ERW), and the block house well (BHW) in May/June 1988. Contaminants associated with petroleum and chlorides were detected in the groundwater samples. The chloride in the groundwater is believed to be from the ham curing facility which operated at the site from the mid 1950's to the mid 1970's.

In May 1989, Westinghouse Environmental Services (WES) submitted an Initial Site Assessment of the site. This assessment included the drilling of numerous soil test borings, drilling and installation of two monitoring wells and three piezometers, stream sampling, and associated sampling and analyses in the fall of 1988. The site assessment determined the location of contaminated soil and began to determine the extent of groundwater contamination. The assessment confirmed that petroleum and chloride contamination was present in the bedrock aquifer. Chlorides have been detected in the creek east of the site. Also during the assessment, WES removed and treated approximately 700 cubic yards of petroleum contaminated soil from the UST Pit B area.

In early 1991, Charles T. Main (CTM) was contracted to develop a remedial action plan (RAP).

Their plan was submitted to the then North Carolina Department of Environment, Health, and Natural Resources (NC DEHNR) Groundwater Section Regional Office in Winston-Salem, North Carolina on April 17, 1991. The NC DEHNR is currently the Department of Environment and Natural Resources (DENR) and will be referred to in that way in this report. The NCDENR requested additional information, and a supplemental RAP was submitted to the NCDENR on September 27, 1991. Both RAPs proposed using a pump and treat system to remediate the groundwater. The groundwater was to be pumped from seven recovery wells, treated, and discharged under an Individual NPDES permit. CTM recommended that the chloride contaminated soil be allowed to naturally remediate over time. Because of difficulties in obtaining access to discharge the effluent, in 1996, Smithfield Foods requested that the NCDENR allow the groundwater and soil be remediated through a process of natural attenuation. Following this request, on August 26, 1996, the NCDENR requested additional assessment of the site. In March 1998, a Groundwater Monitoring Report with updated sampling data was sent to the NCDENR. Upon review of the monitoring report, on May 20, 1998 the NCDENR requested additional investigation of the bedrock aquifer. A follow-up report was issued on August 23, 1999.

On October 11, 2002, the NCDENR sent Smithfield Foods a Notice of Regulatory Requirements requiring the submittal of a corrective action plan (CAP) to treat the petroleum contaminated soil and groundwater. Because chloride contaminated groundwater is commingled with the petroleum contamination, the CAP addressed both contaminants. On December 20, 2002 the CAP was submitted to NCDENR by Trigon Engineering Consultants (now Trigon/Kleinfelder). The CAP called for additional soil sampling in the UST B area, with excavation and disposal of any remaining contaminated soil. Groundwater contamination would be addressed with a pump and treat system incorporating an air stripper to treat the petroleum contamination and a reverse osmosis (RO) system to deal with elevated chloride concentrations. The December 2002 CAP was developed under tight time constraints and was, thus, based on the data from the 1999 sampling events. The CAP called for a new round of sampling and re-evaluation of the CAP requirements based on the analytical results.

Groundwater sampling of the recovery wells, monitoring wells, water wells and stream, and soil

sampling of the UST B pit area and the salt disposal area was conducted on June 12 and 13, 2003. The results of the sampling was reported to NCDENR in an October 3, 2003 Groundwater and Soil Sampling Report. On March 30, 2003 a meeting was held at the site between Smithfield Foods, Mr. Stephen Williams of NCDENR and Trigon/Kleinfelder. Based on the preliminary June 2003 sampling results and a review of the site conditions, NCDENR agreed to consider modifying the December 2002 CAP to allow remediation of remaining contamination at the site by monitored natural attenuation. The modified conditions were to be allowed only if continued monitoring indicated that the contaminant plume was stable or improving. Groundwater sampling of the recovery wells, monitoring wells, water wells and the stream conducted on October 8, 2003 confirmed that both the BTEX and chloride plumes were stable and that natural attenuation of petroleum and chloride contamination in the groundwater may be occurring.

Following a review of the groundwater sampling data from the October 2003 sampling event, the NCDENR approved Smithfield's request on November 20, 2003 to modify the December 2002 CAP to provide for natural attenuation. On February 3, 2004, Trigon/Kleinfelder submitted a CAP to modify the December 2002 CAP, which will allow the existing petroleum and chloride contaminants in the site soil and groundwater to naturally attenuate. The February 3, 2004 natural attenuation CAP was approved by the NCDENR on March 16, 2004. As of July 2010, all residences in the site area except for the Norman residence (located up- and cross-gradient of the chloride and BTEX plumes) were connected to the public water supply. Subsequently, NCDENR's UST Branch closed the UST case in a No Further Action (NFA) letter dated November 19, 2010. Therefore, no additional monitoring of the BTEX plume is required.

On November 12, 2010, a conference call between Smithfield Packing Co., Inc. (Smithfield), Alliance, and the NCDENR Inactive Hazardous Waste Sites Branch was held to discuss future monitoring of the chloride plume in light of the closure of the UST case. During this conference call, it was decided that monitoring of the chloride plume would be reduced to an annual event until the chloride standards for groundwater and surface water have been met. At that point, quarterly monitoring will be resumed to demonstrate achievement of the chloride standards.

## 2.0 PURPOSE

---

On January 17 and January 18, 2011, groundwater, surface water, and soil samples were collected and analyzed to assess the current extent and magnitude of the chloride plume. It is the purpose of this report to present the results of this monitoring event.



### 3.0 RECEPTORS

---

A well survey of the area in October 1996 determined that there are approximately nine water supply wells within 1,500 feet of the site (Figure 3) and another seven wells within 1,750 feet of the site. Five of these wells are separated from the site by a stream valley (Figure 4). The names and addresses of water well users within 1,500 feet of the site are shown in Table 1. During the fall of 2007, a public water main was installed along NC Highway 22 to supply a proposed school north of the site. To date, all of the residences except for the Norman residence (located up- and cross-gradient of the chloride plume) have been connected to the public water system.

The owners of the properties located immediately adjacent to the site are listed in Table 2. Their locations are shown on Figure 3.

The hillside east of the site is dissected by numerous small gullies that feed a wet weather drainage feature located approximately 1,000 feet east of the site. This drainage feature flows into an unnamed tributary to Sandy Creek which is located approximately 1.3 miles east of the site (Figure 1).

## **4.0 METHODS**

---

### **4.1 MONITORING AND RECOVERY WELL SAMPLING**

Monitoring well MW-1S was sampled on January 17, 2011 and Monitoring well MW-1D and recovery wells RW-1, RW-2, RW-3, RW-4, RW-5, RW-6, and RW-7 were sampled on January 18, 2011. The locations of the monitoring and recovery wells are shown on Figure 2. The samples were sent to REIC Laboratories in Beaver, West Virginia and analyzed for chloride using EPA Method 300.0.

Prior to collecting the samples, the water level in each well was measured and recorded and a minimum of three well volumes of water was removed or the well was bailed dry using either a bailer or in place electric pumps. After purging, the monitoring well samples were collected with a new disposable bailer. The recovery well samples were collected from sample ports located at each well head. The samples were collected in laboratory supplied bottles, preserved, and picked up by a REIC courier under chain-of-custody to REIC Laboratories in Beaver, West Virginia. Purge water was pumped into an on-site tanker truck and hauled to the Smithfield Packing facility in Bladen County, North Carolina.

### **4.2 RECOVERY WELL DISCRETE INTERVAL SAMPLING**

In addition to the conventional three-well-volume purge sampling method, recovery wells RW-1, RW-2, RW-3, and RW-6 were also sampled via discrete interval sampling on January 17, 2011. The purpose of the discrete interval sampling method was to demonstrate consistent chloride results between this method and the standard three-well-volume method. If the discrete interval sampling showed comparable results, then this method would be used in future monitoring events to eliminate the needs for electrical power and purge water handling associated with purging three well volumes.

To evaluate potential vertical stratification of the chloride plume within the bedrock aquifer, recovery well RW-3 was sampled via discrete sampling at three different depth intervals (Table

3). The discrete interval samples at the other recovery wells were collected at depths just above the submersible pump intake. The samples were sent to REIC Laboratories in Beaver, West Virginia and analyzed for chloride using EPA Method 300.0.

Prior to collecting the samples, the water level in each well was measured and recorded. Upon measuring the water level, the desired depth to the sample interval was measured and the samples were then collected using a Solinst Model 425 Discrete Interval Sampler. The samples were collected in laboratory supplied bottles, preserved, and picked up by a REIC courier under chain-of-custody to REIC Laboratories in Beaver, West Virginia.

#### **4.3 WATER WELL SAMPLING**

Because all of the residences except for the Norman residence (located up- and cross-gradient of the chloride plume) have been connected to public water and the UST case has been closed by NCDENR, sampling of the water wells is no longer conducted.

#### **4.4 STREAM SAMPLING**

The stream located east of the site was not able to be sampled during this Annual event due to the stream bed being completely dry at all locations (S1-upper, S2-mid, and S3-lower).

#### **4.5 SOIL SAMPLING**

On January 18, 2011, Alliance personnel collected soil samples from the salt/brine disposal area to determine the chloride concentrations. The results of the January 18, 2011 sample analyses are summarized in Table 4. A shallow (1 foot deep) and a deep (4 foot deep) sample were collected at locations SS-1, SS-2, SS-3, and SS-4. The samples were analyzed for chloride via EPA Method 300.0. Each sample was a composite sample made by combining soil from four different borings located approximately five feet apart. The locations of the soil samples are shown in Figure 6. Each sample was collected using a stainless steel hand auger. The samples were placed in an iced cooler and were picked up by a REIC courier under chain-of-custody to

REIC Laboratories in Beaver, West Virginia.

#### **4.6 FIELD MEASUREMENTS**

The static water level in monitoring wells MW-1D and MW-1S and in recovery wells RW-1, RW-2, RW-3, RW-4, RW-5, RW-6, and RW-7 was gauged on January 17, 2011. The water level was measured using an electronic water level meter accurate to 0.01 feet. The water level measurement data are recorded on Table 6.

## **5.0 RESULTS**

---

### **5.1 MONITORING WELLS**

Chloride was detected in wells MW-1S (717 mg/L) and MW-1D (984 mg/L) above the State's 2L .0202 Standard of 250 mg/L. The laboratory results are summarized in Table 3 and the complete laboratory reports are included as Appendix A.

### **5.2 CONVENTIONAL SAMPLING OF RECOVERY WELLS**

Chloride was detected above the State's 2L .0202 standard of 250 mg/L in recovery wells RW-1 (428 mg/L), RW-2 (1,010 mg/L), and RW-3 (2,160 mg/L). The laboratory results are summarized in Table 3 and the laboratory report is included as Appendix A.

### **5.3 DISCRETE SAMPLING OF RECOVERY WELLS**

All of the recovery wells sampled via the discrete sampling method showed generally similar results in chloride concentrations when compared to those sampled via the conventional sampling method (Table 3). In the recovery wells that exhibited chloride concentrations above the State's 2L standard, the results are as follows:

- RW-1 (485 mg/L) sampled at 20.0 feet below grounds surface (bgs);
- RW-2 (815 mg/L) sampled at 38.0 feet bgs;
- RW-3 (2,490 mg/L, 2,480 mg/L, and 2,410 mg/l) sampled at 13.5 feet, 22.5 feet, and 32.5 feet.

As shown by the results, RW-1 and RW-3 exhibited higher chloride concentrations when using discrete sampling as opposed to using the conventional sampling method. These results suggest that chloride concentrations may be diluted as the wells are being purged when sampling via the three-well-volume method. Recovery well RW-2 however, showed a lower chloride concentration when using the discrete sampling method. This suggests that as the well is being

purged, higher chloride concentrations from outside the borehole are being drawn into the well, or that there is some vertical stratification of chloride in the area of RW-2. Recovery well RW-3 was sampled at three different depth intervals to evaluate potential vertical stratification of the chloride plume within the bedrock aquifer. As seen by the similarity of the results from the three samples collected from RW-3, the chloride plume does not appear to be vertically stratified in the RW-3 area.

To graphically and quantitatively compare the discrete interval sampling results to those from the conventional three-well-volume purge, a linear regression curve (Figure 7) was created for the recovery wells that were sampled by using both methods. As shown on this graph, the results from both sampling methods show very close agreement and correlation. This correlation is further illustrated by the high R-squared value of over 97%, the best-fit line slope of 1.1 (1.0 would indicate an exact match) and low y-intercept of -59.8 mg/L (0.0 mg/L would indicate an exact match).

#### **5.4 SOIL SAMPLING**

Concentrations of chloride in the soil samples collected on January 18, 2011 were below detection limits in the 1-foot samples from SS-1, SS-2, SS-3, and SS-4. Chloride concentrations at SS-1, SS-3, and SS-4 in the 4-foot samples ranged from 27.2 mg/kg in SS-4 to 170 mg/kg in SS-1, and were all higher than in the previous soil sampling event in January 2010. Chloride concentrations at SS-2 remained consistent with the 2010 sampling event and were below detection limits in both the 1-foot and 4-foot samples. The soil sampling analytical data is summarized on Table 4, and the accompanying laboratory analyses and chain-of-custody can be found in Appendix A.

#### **5.5 GROUNDWATER FLOW DIRECTION**

The groundwater measurements collected on January 17, 2011 were used to prepare a groundwater surface contour map (Figure 8). The data shows groundwater in both the residuum and bedrock are moving generally to the southeast toward the stream. The water level data are

summarized in Table 6.

## **5.6 PLUME GEOMETRY**

Based on the data collected during the January 2011 sampling event, chloride is concentrated in the area immediately behind (east-southeast of) the plant (MW-1S and RW-3) and along a line extending to the southeast toward the stream (MW-1D). A diffuse plume of chloride extends to the north, southwest, and west of the plant. Groundwater chloride results from the January 2011 sampling event are plotted on Figure 9.

Review of historical chloride concentrations from the site monitoring and recovery wells in Table 4 reveals the following general trends. MW-1S has shown an obvious decreasing trend, indicating a reduction in the core of the chloride plume. Wells RW-4, RW-5, and RW-6 show possible decreasing concentrations with gradual negative sloping trends and wells MW-1D, RW-1, RW-2, RW-6, and RW-7 show generally stable concentrations with no easily-recognizable trend.

## 6.0 CONCLUSIONS

---

Based on the results of the January 2011 monitoring at the site, the following conclusions can be drawn:

The shallow residuum and deep bedrock aquifers are contaminated with chlorides. All the residential water wells in the immediate area except for the Norman residence (located up- and cross-gradient of the chloride plume) have been connected to the public water system and therefore are no longer sampled. The concentrations of chlorides in the samples have remained fairly constant over the sampling history at the site, with possible slow attenuation rates in some of the source area monitoring wells (e.g., MW-1S, RW-4, RW-5, and RW-6).

Because the UST case has been closed by NCDENR, it was agreed during the November 12, 2010 conference call with the Inactive Hazardous Waste Sites Branch that monitoring of the chloride plume will be reduced to an annual basis until the North Carolina standards for chloride have been met. After these standards have been met, quarterly monitoring will be resumed to demonstrate attainment.

Based on the close agreement between the results of the wells sampled by both the conventional three-volume-purge method and the discrete interval sampling method discussed in Section 5.2, Alliance recommends the continued use of the discrete interval method for all recovery wells during the annual sampling events at the site until the North Carolina standards for chloride have been met. The discrete sampling method will eliminate the needs for electrical power and handling of purge water as well as reduce costs to maintain the recovery well pumps and control panel and to prevent equipment vandalism at this currently vacant site.



## TABLES

Ms. Ruth Debritto, Smithfield Foods, Inc.  
Hancock Country Hams, Franklinville, North Carolina

TABLE 1: PROPERTIES WITHIN 1,500 FEET OF THE SITE WITH WATER WELLS		
Parcel ID No.	Property Owner	Property Address
7794400682	Sherry J. Norman	3575 NC Hwy 22N, Franklinville, NC 27248
7794403084	William E. & Jane P. Rhodes	3520 NC Hwy 22 N., Franklinville, NC 27248
7794308034	Joseph & Anne Sue Beal	3511 NC Hwy 22 N., Franklinville, NC 27248
7793491793	Hancock Old Fashion Ctry Ham	3482 NC Hwy 22N., Franklinville, NC 27248
7793491252	Julia S. Hancock	3456 NC Hwy 22 N., Franklinville, NC 27248
7793395540	Wilbert L. Hancock	1716 Academy Rd. Ext., Franklinville, NC 27248
7793394490	Terry Wesley	P. O. Box 1300, Ramseur, NC 27316
7793393252	Raymond Jester, Jr.	3419 NC Hwy 22 N., Franklinville, NC 27248
7793392064	Peggy J. Brown	3399 NC Hwy 22N., Franklinville, NC 27248
7793381857	James T. & Charlotte Kivett	3367 NC Hwy 22 N., Franklinville, NC 27248
7793582180	Richard Wallace	3519 Cedar Forest Rd, Franklinville, Nc 27248
7793580431	Irene C. Garrett	3521 Cedar Forest Rd, Franklinville, NC 27248
7793487411	Steven E. & Loretta Thompson	3505 Cedar Forest Rd, Franklinville, NC 27248

Ms. Ruth Debritto,  
Smithfield Foods, Inc.  
Hancock Country Hams,  
Franklinville, North Carolina

TABLE 2: ADJACENT PROPERTY OWNERS		
Parcel ID No.	Property Owner	Property Address
7794403084	William E. & Jane P. Rhodes	3520 NC Hwy 22 N., Franklinville, NC 27248
7794308034	Joseph & Anne Sue Beal	3511 NC Hwy 22 N., Franklinville, NC 27248
7793491252	Julia S. Hancock	3456 NC Hwy 22 N., Franklinville, NC 27248
7793593950	George H. & Barbara Poe	3862 HardinEllison Rd., Franklinville, NC 27248
7793597552	Mark A. & Marcia Coponen	3896 HardinEllison Rd., Franklinville, NC 27248
7793395540	Wilbert L. Hancock	1716 Academy Rd. Ext., Franklinville, NC 27248

Note: Locations shown on Figure 3.

Mrs. Ruth DeBrito,  
Smithfield Foods, Inc.  
Hancock County Hams,  
Franklinville, North Carolina

TABLE 3  
HISTORICAL MONITORING AND RECOVERY WELL CHLORIDE SAMPLE RESULTS

2L Standards: 250 ppm Chloride									
Monitoring Wells				Recovery Wells					
MW-1S		MW-1D		RW-1		RW-2		RW-3	
10/23/88	NA	10/23/88	740	5/26/93	473	5/26/93	429	5/26/93	1,219
11/30/88	3,800	2/29/96	1,387	2/17/98	284	2/17/98	255	3/17/98	4,250
10/1/96	9,844	10/11/96	1,781	3/23/99	492	3/23/99	419	2/17/98	3,800
2/17/98	4,590	2/19/98	851	6/12/03	553	6/12/03	575	10/20/98	NA
6/12/03	3,150	6/12/03	NS	10/8/03	550	10/8/03	370	10/20/98	4,250
10/8/03	3,200	10/8/03	1,100	1/8/04	525	1/8/04	765	10/20/98	6,400
1/8/04	2,710	1/8/04	1,080	4/7/04	612	4/7/04	627	3/23/99	3,423
4/7/04	2,800	4/7/04	1,040	7/20/04	643	12/15/04	755	6/12/03	4,230
7/20/04	2,700	7/20/04	987	12/15/04	594	3/24/05	773	10/8/03	3,800
12/15/04	2,351	12/15/04	1,029	10/12/06	486	8/23/05	659	1/8/04	4,210
3/24/05	2,620	3/24/05	1,150	1/3/07	665	12/1/05	783	4/7/04	4,850
8/23/05	2,210	8/23/05	1,480	3/22/07	308	3/8/06	560	7/20/04	2,720
12/1/05	1,990	12/1/05	1,370	7/18/07	704	6/20/06	783	12/15/04	3,705
3/8/06	1,700	3/8/06	1,200	1/24/08	692	10/12/06	519	3/24/05	4,010
6/20/06	1,541	6/20/06	1,394	3/20/08	670	1/3/07	641	8/23/05	3,290
10/12/06	1,662	10/12/06	1,297	6/24/08	753	3/22/07	445	12/1/05	4,600
1/3/07	1,496	1/3/07	1,449	1/14/09	711	7/18/07	440	3/8/06	4,400
3/22/07	1,346	3/22/07	1,104	4/22/09	800	1/24/08	498	6/20/06	NS
7/18/07	1,362	7/18/07	1,329	7/16/09	599	3/20/08	656	10/12/06	NS
1/24/08	1,440	1/24/08	1,000	10/14/09	520	6/24/08	420	1/3/07	1,758
3/20/08	1,362	3/20/08	1,220	1/13/10	460	1/14/09	472	3/22/07	3,261
6/24/08	1,680	6/24/08	1,320	4/15/10	558	4/22/09	528	7/18/07	3,767
1/14/09	1,040	1/14/09	1,010	7/22/10	345	7/16/09	473	1/24/08	2,940
4/21/09	1,110	4/21/09	1,380	10/26/10	383	10/14/09	649	3/20/08	2,730
7/16/09	84.3	7/16/09	1,240	1/18/11	428	1/13/10	698	6/24/08	2,690
10/14/09	850	10/14/09	1,260	1/18/2011** Depth of 200 ft	485	4/15/10	521	1/14/09	1,230
1/14/10	885	1/13/10	1,230			7/22/09	588	4/22/09	873
4/16/10	888	4/16/10	1,220			10/26/10	860	7/16/09	2,990
7/21/10	943	7/21/10	866			1/18/11	1,010	10/14/09	3,090
10/26/10	356	10/26/10	1,240			1/18/2011** (Depth of Sample 38.0 Ft)	815	1/13/10	2,840
1/17/11	717	1/18/11	984					4/15/10	1,880
								7/22/10	2,490
								10/26/10	2,160
								1/18/11	2,160
								1/18/2011** (Depth of 135 ft)	2,490
								1/18/2011** (Depth of 225 ft)	2,480
								1/18/2011** (Depth of 325 ft)	2,410

Ms. Ruth DeBrito,  
Smithfield Foods, Inc.  
Hancock Country House,  
Franklinville, North Carolina

TABLE 3  
HISTORICAL MONITORING AND RECOVERY WELL CHLORIDE SAMPLE RESULTS

2L Standards: 250 ppm for Chloride							
Recovery Wells (continued)							
RW-4		RW-5		RW-6		RW-7	
5/26/93	457	5/26/93	428	5/26/88	144/865	5/26/93	324
2/17/98	226	2/17/98	316	10/1/88	800	3/29/96	211
3/23/99	410	3/23/99	386	5/26/93	245	2/17/98	140
6/12/03	368	6/12/03	282	2/17/98	301	10/21/98	240
10/8/03	400	10/8/03	340	10/21/98	615	3/23/99	261
1/8/04	304	1/8/04	324	3/23/99	599	6/12/03	293
4/7/04	323	4/7/04	338	6/12/03	521	10/8/03	350
7/20/04	277	7/20/04	315	10/8/03	310	1/8/04	321
12/15/04	271	12/15/04	347	1/8/04	223	4/7/04	310
3/24/05	249	3/24/05	345	4/7/04	275	7/20/04	283
8/23/05	228	8/23/05	354	7/20/04	219	12/15/04	299
12/1/05	220	12/1/05	329	12/15/04	190	3/24/05	258
3/8/06	120	3/8/06	150	3/24/05	195	8/23/05	261
6/20/06	218	6/20/06	NS	8/23/05	167	12/1/05	287
10/12/06	217	10/12/06	NS	12/1/05	185	3/8/06	140
1/3/07	428	1/3/07	404	3/8/06	120	6/20/06	276
3/22/07	220	3/22/07	NS	6/20/06	297	10/12/06	274
7/18/07	205	7/18/07	298	10/12/06	212	1/3/07	333
1/24/08	172	1/24/08	NS	1/3/07	523	3/22/07	220
3/20/08	175	3/20/08	191	3/22/07	212	7/18/07	220
6/24/08	182	6/24/08	222	7/18/07	161	1/24/08	125
1/14/09	190	1/14/09	226	1/24/08	180	3/20/08	113
4/22/09	209	4/22/09	244	3/20/08	198	6/24/08	152
7/16/09	223	7/16/09	249	6/24/08	258	1/14/09	190
10/14/09	184	10/14/09	230	1/14/09	239	4/22/09	209
1/13/10	214	1/13/10	228	4/22/09†	NS	7/16/09	239
4/15/10	198	4/15/10	209	7/16/09	190	10/14/09	194
7/22/10	176	7/22/10	232	10/14/09	183	1/13/10	170
10/26/10	171	10/26/10	139	1/13/10	211	4/15/10	251
1/18/11	139	1/18/11	184	4/15/10	166	7/22/10	201
				7/22/10	147	10/26/10	258
				10/26/10	165	1/18/11	214
				1/18/11	171		
				1/18/2011** (Depth of 25.0 ft.)	202		

Notes:

ppm = parts per million

ft = feet

Concentrations which exceed the 2L Groundwater Quality Standards are bold.

2L Standards - NCAC Title 15A, Subchapter 2L Quality Standards for Class GA groundwater, Jan. 1, 2010

PLW - Parking Lot Well

BQL - Below the quantitation limit of the method of analysis

NS - Not sampled

ND - Non-detect

Environmental Alliance began sampling in April 2009, all previous samples collected by others.

† - Not sampled due to pump malfunctioning

\*\* Indicates when discrete sampling was used

<sup>1</sup> Sample collected by Westinghouse Environmental Services; piezometers currently inaccessible

<sup>2</sup> Sample collected by Charles T. Main

<sup>3</sup> Sample collected by Smithfield Foods

<sup>4</sup> Sample collected by BPA Environmental & Engineering, Inc.

<sup>5</sup> EPA Method 602 with a detection limit of 1 to 5 ppb

<sup>6</sup> EPA Method 504.1 with a Detection Limit of 0.02 ppb

<sup>7</sup> EPA Method 601 with a detection limit of 1 to 5 ppb

<sup>8</sup> Method 239.1 with a detection limit of 5 ppb

<sup>9</sup> Method SM4500C with a detection limit of 0.10 ppm

<sup>10</sup> Collected on 9/23/88

<sup>11</sup> Sample collected by Russnow, Kane, and Andrews

144/865 - Sample collected near water table/sample collected at depth

<sup>12</sup> Sample 3C collected from Packer Test Interval 220 - 240 ft. bls.

<sup>13</sup> Sample 3B Collected from Packer Test Interval 290 - 310 ft. bls.

<sup>14</sup> Sample 3A Collected from Packer Test Interval 319 - 339 ft. bls.

<sup>15</sup> Sample 6A Collected from Packer Test Interval 167 - 187 ft. bls.

<sup>16</sup> Sample 7B Collected from Packer Test Interval 170 - 190 ft. bls.

<sup>17</sup> Sample collected by Trigon Engineering Consultants, Inc.

Ms. Ruth Debrito, Smithfield Foods, Inc.  
Hancock Country Hams, Franklinville, North Carolina

**TABLE 4: SOIL SAMPLE RESULTS : CHLORIDE**

Depth in Feet	Location													
	SCL-1							SCL-2						
	7/22/04	8/23/05	6/20/06	1/24/08 <sup>1</sup>	4/21/09	1/14/10	01/18/11 <sup>1</sup>	7/22/04	8/23/05	6/20/06	1/24/08 <sup>1</sup>	4/21/09	1/14/10	01/18/11 <sup>1</sup>
1.0	3.6	18.8	103.0	7.8	47.1	BDL	BDL	217	29	BDL	53	19.5	BDL	BDL
4.0	3.3	18.3	NS	1.5	211	95	170	3,320	NS	NS	146.0	32.7	33.2	BDL

Depth in Feet	Location													
	SCL-3							SCL-4						
	7/22/04	8/23/05	6/20/06	1/24/08 <sup>1</sup>	4/21/09	1/14/10	01/18/11 <sup>1</sup>	7/22/04	8/23/05	6/20/06	1/24/08 <sup>1</sup>	4/21/09	1/14/10	01/18/11 <sup>1</sup>
1.0	80.5	23.9	65.1	23.1	BDL	BDL	BDL	8.2	35.2	45.6	6.9	BDL	12.4	BDL
4.0	670	12	NS	158.0	37	141	119	3.6	325.0	NS	429.0	19.4	18.2	27.2

Notes:

Results shown in parts per million

NS - Not Sampled

BDL = Below detection limit

<sup>1</sup> Samples collected on 1/24/08 and 1/18/11 are labeled SS-1, SS-2, SS-3, and SS-4

Ms. Ruth Debrito, Smithfield Foods, Inc.  
Hancock Country Hams, Franklinville, North Carolina

TABLE 5: HISTORICAL SURFACE WATER SAMPLE RESULTS

S-1 (upper)																
2B Standard. - 230 ppm Chloride																
Sample Date	10/31/88 <sup>5</sup>	10/11/96 <sup>6</sup>	2/18/98 <sup>6</sup>	6/12/03 <sup>7</sup>	10/8/03 <sup>7</sup>	1/8/04 <sup>7</sup>	4/7/04 <sup>7</sup>	7/20/04 <sup>7</sup>	12/15/04 <sup>7</sup>	3/24/05 <sup>7</sup>	8/23/05 <sup>7</sup>	12/01/05 <sup>7</sup>	3/08/06 <sup>7</sup>	6/20/06 <sup>7</sup>	10/12/06 <sup>7</sup>	1/3/07 <sup>7</sup>
Chloride <sup>1</sup>	1,000	74.6	22.8	12	7.6	10.8	13.6	209	31.6	27.8	NS	33.3	35	NS	NS	37.5

S-1 (upper) (cont'd.)																
2B Standard. - 230 ppm Chloride																
Sample Date	3/22/07 <sup>7</sup>	7/18/07 <sup>7</sup>	1/24/08 <sup>7</sup>	3/20/08 <sup>7</sup>	6/24/08 <sup>7</sup>	1/14/09 <sup>7</sup>	4/21/09 <sup>9</sup>	7/16/09 <sup>9</sup>	10/14/09 <sup>9</sup>	1/13/10	4/16/10	7/21/10	10/26/10	1/17/11		
Chloride <sup>1</sup>	23.3	NS	NS	46.3	NS	25.1	14.2	DRY	DRY	9.08	6.52	DRY	DRY	DRY		

S-2 (mid)																
2B Standard. - 230 ppm Chloride																
Sample Date	10/31/88 <sup>5</sup>	10/11/96 <sup>6</sup>	2/18/98 <sup>6</sup>	6/12/03 <sup>7</sup>	10/8/03 <sup>7</sup>	1/8/04 <sup>7</sup>	4/7/04 <sup>7</sup>	7/20/04 <sup>7</sup>	12/15/04 <sup>7</sup>	3/24/05 <sup>7</sup>	8/23/05 <sup>7</sup>	12/01/05 <sup>7</sup>	3/08/06 <sup>7</sup>	6/20/06 <sup>7</sup>	10/12/06 <sup>7</sup>	1/3/07 <sup>7</sup>
Chloride <sup>1</sup>	840	72.2	156	27	16	39.8	41.1	15.1	64.1	49.8	79.2	248	39	26.4	NS	39.9

S-2 (mid) (cont'd.)																
2B Standard. - 230 ppm Chloride																
Sample Date	3/22/07 <sup>7</sup>	7/18/07 <sup>7</sup>	1/24/08 <sup>7</sup>	3/20/08 <sup>7</sup>	6/24/08 <sup>7</sup>	1/14/09 <sup>7</sup>	4/21/09 <sup>9</sup>	7/16/09 <sup>9</sup>	10/14/09 <sup>9</sup>	1/13/10	4/16/10	7/21/10	10/26/10	1/17/11		
Chloride <sup>1</sup>	55.9	NS	NS	72.9	NS	62.5	17.5	DRY	DRY	46.2	11.8	11.6	11.6	DRY		

S-3 (lower) (cont'd.)																
2B Standard. - 230 ppm Chloride																
Sample Date	10/31/88 <sup>5</sup>	10/11/96 <sup>6</sup>	2/18/98 <sup>6</sup>	6/12/03 <sup>7</sup>	10/8/03 <sup>7</sup>	1/8/04 <sup>7</sup>	4/7/04 <sup>7</sup>	7/20/04 <sup>7</sup>	12/15/04 <sup>7</sup>	3/24/05 <sup>7</sup>	8/23/05 <sup>7</sup>	12/01/05 <sup>7</sup>	3/08/06 <sup>7</sup>	6/20/06 <sup>7</sup>	10/12/06 <sup>7</sup>	1/3/07 <sup>7</sup>
Chloride <sup>1</sup>	700	295	54.7	29	32	53.4	53.1	97.1	105	51.2	35.6	140	61	75.8	25.9	79.8

S-3 (lower)																
2B Standard. - 230 ppm Chloride																
Sample Date	3/22/07 <sup>7</sup>	7/18/07 <sup>7</sup>	1/24/08 <sup>7</sup>	3/20/08 <sup>7</sup>	6/24/08 <sup>7</sup>	1/14/09 <sup>7</sup>	4/21/09 <sup>9</sup>	7/16/09 <sup>9</sup>	10/14/09 <sup>9</sup>	1/13/10	4/16/10	7/21/10	10/26/10	1/17/11		
Chloride <sup>1</sup>	70.9	NS	75.8	79.3	84.3	77.2	46.7	DRY	DRY	41.0	17.5	9.31	9.31	DRY		

Notes:

All results are in parts per million (ppm)

Concentrations which exceed the 2B Surface Water Quality Standards are bold

2B Standards - Quality Standards for Aquatic Life in Fresh Water

NS- Not Sampled

NA- Not analyzed for this compound

ND - Non-detect

BQL- Below the quantitation limit of the method of analysis

Environmental Alliance began sampling in April 2009, all previous samples collected by others

<sup>1</sup> EPA Method SM4500C with a detection limit of 0.10 ppm

<sup>5</sup> Sample collected by Westinghouse Environmental

Ms. Ruth Debrin,  
Smithfield Foods, Inc.  
Hancock County Hamt,  
Franklinville, North Carolias

TABLE 6: SUMMARY OF MONITORING WELL AND GROUNDWATER ELEVATION DATA

Well No.	Elevation <sup>1</sup> (ft)		Well Construction (ft)			Static Water Levels																	
						11/18/88 <sup>3</sup>		2/17-19/98 <sup>4</sup>		3/13/99 <sup>4</sup>		5/23/99 <sup>4</sup>		6/12/03 <sup>5</sup>		10/8/03 <sup>6</sup>		1/8/04 <sup>6</sup>		4/7/04 <sup>6</sup>		7/20/04 <sup>6</sup>	
	Top of Casing	Top of Screen	Length of Screen	Depth of Casing <sup>5</sup>	Depth of Well	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation		
MW-1S	842.84	845.31	5.0	NA	15	13.95	831.36	13.20	832.11	---	---	14.25	831.06	14.21	828.63	14.34	828.50	14.17	828.67	14.07	828.77	14.32	828.52
MW-1D	674.66	---	NA	11.0	72	13.11	663.00	4.70	671.41	---	---	11.05	665.06	---	---	9.30	665.36	9.43	665.23	7.96	666.70	10.74	663.92
P-1	809.32	811.84	2.40	NA	3	3.60	808.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-2	NM	765.00	2.4	NA	5.5	3.70	761.30	4.95	760.05	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-3	682.98	684.89	2.4	NA	2.9	2.78	682.11	2.22	682.67	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RW-1	842.56	---	NA	23.8	220	---	---	130.85	712.31	147.25	695.91	>151.50	<691.66	139.20	703.36	117.99	724.57	119.08	723.48	122.22	720.34	118.11	724.45
RW-2	850.47	---	NA	38.6	401	---	---	130.40	720.58	149.62	701.36	145.50	705.48	126.25	724.22	121.88	728.59	122.75	727.72	123.47	727.00	121.79	728.68
RW-3	840.65	---	NA	52.5	340	---	---	129.50	711.47	141.25	699.72	139.55	701.42	124.14	716.51	112.86	727.79	115.78	724.87	113.32	727.33	113.04	727.61
RW-4	821.49	---	NA	20.0	301	---	---	105.20	715.10	119.11	701.19	118.25	702.05	103.34	718.15	96.11	725.38	97.46	724.03	97.81	723.68	95.66	725.83
RW-5	831.07	---	NA	29.5	303	---	---	115.35	716.63	129.10	702.88	128.35	703.63	112.26	718.81	105.87	725.20	107.55	723.52	107.22	723.85	105.78	725.29
RW-6 (PLW)	858.38	---	NA	37.7	267	137.64	721.68	137.28	722.04	151.10	708.22	150.35	708.97	132.53	725.85	126.69	731.69	128.68	729.70	129.41	728.97	127.04	731.34
RW-7	857.00	---	NA	14.1	221	---	---	134.70	722.96	145.45	712.21	145.20	712.46	130.27	726.73	124.62	732.38	126.74	730.26	127.46	729.54	125.09	731.91

TABLE 6: SUMMARY OF MONITORING WELL AND GROUNDWATER ELEVATION DATA (cont'd)

Well No.	Elevation <sup>1</sup> (ft)		Well Construction (ft)			Static Water Levels																	
						1/05/05 <sup>6</sup>		3/24/05 <sup>6</sup>		8/23/05 <sup>6</sup>		12/01/05 <sup>6</sup>		3/08/06 <sup>6</sup>		6/20/06 <sup>6</sup>		10/12/06 <sup>6</sup>		1/3/07 <sup>6</sup>		3/22/07 <sup>6</sup>	
	Top of Casing	Top of Screen	Length of Screen	Depth of Casing <sup>5</sup>	Depth of Well	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation		
MW-1S	842.84	845.31	5.0	NA	15	14.07 <sup>7</sup>	828.77	13.8	829.04	14.19	828.65	13.93	828.91	12.95	829.89	14.05	828.79	14.16	828.68	13.64	829.20	13.82	829.02
MW-1D	674.66	-	NA	11.0	72	10.02 <sup>7</sup>	664.64	7.39	667.27	11.39	663.27	12.15	662.51	12.33	662.33	12.35	662.31	14.52	660.14	10.28	664.38	9.02	665.64
P-1	809.32	811.84	2.40	NA	3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-2	NM	765.00	2.4	NA	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-3	682.98	684.89	2.4	NA	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RW-1	842.56	-	NA	23.8	220	121.75	720.81	118.31	724.25	118.11	724.45	121.85	720.71	121.82	720.74	121.49	721.07	123.17	719.39	123.65	718.91	122.61	719.95
RW-2	850.47	-	NA	38.6	401	127.24	723.23	122.99	727.48	123.92	726.55	127.16	723.31	124.04	726.43	126.04	724.43	128.63	721.84	127.99	722.48	125.4	725.07
RW-3	840.65	-	NA	52.5	340	121.92	718.73	114.96	725.69	114.1	726.55	123.01	717.64	115.14	725.51	115.52	725.13	115.6	725.05	124.6	716.05	114.97	725.68
RW-4	821.49	-	NA	20.0	301	100.26	721.23	96.98	724.51	96.69	724.80	100.49	721.00	100.43	721.06	104.2	717.29	102.22	719.27	102.08	719.41	100.59	720.90
RW-5	831.07	-	NA	29.5	303	110.45	720.62	107.1	723.97	106.89	724.18	110.64	720.43	110.65	720.42	111.21	719.86	112.42	718.65	112.34	718.73	110.62	720.45
RW-6 (PLW)	858.38	-	NA	37.7	267	131.44	726.94	128.78	729.60	128.17	730.21	132.01	726.37	131.69	726.69	127.04	731.34	125.65	732.73	133.33	725.05	131.52	726.86
RW-7	857.00	-	NA	14.1	221	129.55	727.45	126.89	730.11	126.22	730.78	130.09	726.91	129.67	727.33	129.44	727.56	131.36	725.64	131.34	725.66	129.46	727.54



TABLE 6: SUMMARY OF MONITORING WELL AND GROUNDWATER ELEVATION DATA (cont'd)

Well No.	Elevation <sup>1</sup> (ft)		Well Construction (ft)			Static Water Levels																	
						7/18/07 <sup>6</sup>		1/24/08 <sup>6</sup>		3/20/08 <sup>6</sup>		6/24/08 <sup>6</sup>		1/14/09 <sup>6</sup>		4/22/09 <sup>4</sup>		7/16/09 <sup>5</sup>		10/14/09 <sup>4</sup>		1/13/10 <sup>4</sup>	
	Top of Casing	Top of Screen	Length of Screen	Depth of Casing <sup>2</sup>	Depth of Well	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation		
MW-1S	842.84	845.31	5.0	NA	15	12.21	830.63	14.6	828.24	14.47	828.37	14.42	828.42	14.88	827.96	14.72	828.12	14.96	827.88	14.72	828.12	13.92	828.92
MW-1D	674.66	-	NA	11.0	72	12.77	661.89	12.9	661.76	16.50	658.16	12.98	661.68	10.92	663.74	8.32	666.34	12.02	662.64	14.51	660.15	10.79	663.87
P-1	809.32	811.84	2.40	NA	3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-2	NM	765.00	2.4	NA	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-3	682.98	684.89	2.4	NA	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RW-1	842.56	-	NA	23.8	220	121.75	720.81	127.24	715.32	127.53	715.03	124.60	717.96	124.30	718.26	119.28	723.28	118.93	723.63	139.20	703.36	136.11	706.45
RW-2	850.47	-	NA	38.6	401	125.12	725.35	132.81	717.66	132.54	717.93	129.09	721.38	128.88	721.59	121.22	729.25	120.92	729.55	126.22	724.25	125.01	725.46
RW-3	840.65	-	NA	52.5	340	126.67	713.98	128.31	712.34	128.29	712.36	125.82	714.83	125.45	715.20	117.95	722.70	117.49	723.16	123.98	716.67	124.21	716.44
RW-4	821.49	-	NA	20.0	301	100.09	721.40	106.18	715.31	106.32	715.17	103.47	718.02	103.36	718.13	106.04	715.45	86.22	735.27	103.39	718.10	99.69	721.80
RW-5	831.07	-	NA	29.5	303	110.30	720.77	116.45	714.62	116.62	714.45	113.75	717.32	113.65	717.42	108.14	722.93	108.21	722.86	112.25	718.82	109.91	721.16
RW-6 (PLW)	858.38	-	NA	37.7	267	130.95	727.43	139.11	719.27	139.31	719.07	134.70	723.68	134.87	723.51	129.39	728.99	129.02	729.36	132.56	725.82	136.50	721.88
RW-7	857.00	-	NA	14.1	221	129.25	727.75	137.05	719.95	137.21	719.79	132.65	724.35	132.98	724.02	127.46	729.54	127.13	729.87	130.60	726.40	128.74	728.26

TABLE 6: SUMMARY OF MONITORING WELL AND GROUNDWATER ELEVATION DATA (cont'd)

Well No.	Elevation <sup>1</sup> (ft)		Well Construction (ft)			Static Water Levels							
						4/15/10 <sup>4</sup>		7/22/10 <sup>4</sup>		10/26/10 <sup>4</sup>		01/17/11 <sup>4</sup>	
	Top of Casing	Top of Screen	Length of Screen	Depth of Casing <sup>2</sup>	Depth of Well	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation	Depth (ft.)	Elevation
MW-1S	842.84	845.31	5.0	NA	15	13.52	829.32	13.02	829.82	14.81	828.03	13.50	829.34
MW-1D	674.66	-	NA	11.0	72	11.04	663.62	11.98	662.68	10.82	663.84	11.06	663.60
P-1	809.32	811.84	2.40	NA	3	---	---	---	---	---	---	---	---
P-2	NM	765.00	2.4	NA	5.5	Dry	---	Dry	---	---	---	---	---
P-3	682.98	684.89	2.4	NA	2.9	1.81	681.17	1.68	681.30	2.01	680.97	1.77	681.21
RW-1	842.56	-	NA	23.8	220	115.62	726.94	117.46	725.10	120.12	722.44	122.35	720.21
RW-2	850.47	-	NA	38.6	401	117.05	733.42	121.43	729.04	125.21	725.26	128.54	721.93
RW-3	840.65	-	NA	52.5	340	111.42	729.23	113.95	726.70	118.51	722.14	124.22	716.43
RW-4	821.49	-	NA	20.0	301	94.51	726.98	98.46	723.03	108.11	713.38	101.39	720.10
RW-5	831.07	-	NA	29.5	303	104.68	726.39	106.60	724.47	111.03	720.04	111.72	719.35
RW-6 (PLW)	858.38	-	NA	37.7	267	125.58	732.80	128.12	730.26	131.74	726.64	133.75	724.63
RW-7	857.00	-	NA	14.1	221	123.65	733.35	126.02	730.98	128.92	728.08	131.88	725.12

--- Depth to Groundwater Not Measured

<sup>1</sup>Elevations surveyed from USGS Benchmark by Concord Engineering & Surveying.

<sup>2</sup>Static water levels measured from the top of casing.

<sup>3</sup>Water levels measured by Westinghouse Environmental Services.

<sup>4</sup>Water levels measured by BPA Environmental & Engineering, Inc.

<sup>5</sup>Bedrock Well - Open hole from this depth down. Depth of casing determined from geophysical logging.

<sup>6</sup>Water levels measured by Trigon Engineering Consultants, Inc.

<sup>7</sup>MW-1D and MW-1S water level measured 12/15/04

<sup>8</sup>Water levels measured by Environmental Alliance, Inc.

NA - Not applicable

MW - Monitoring well

P - Piezometer

RW - Recovery Well

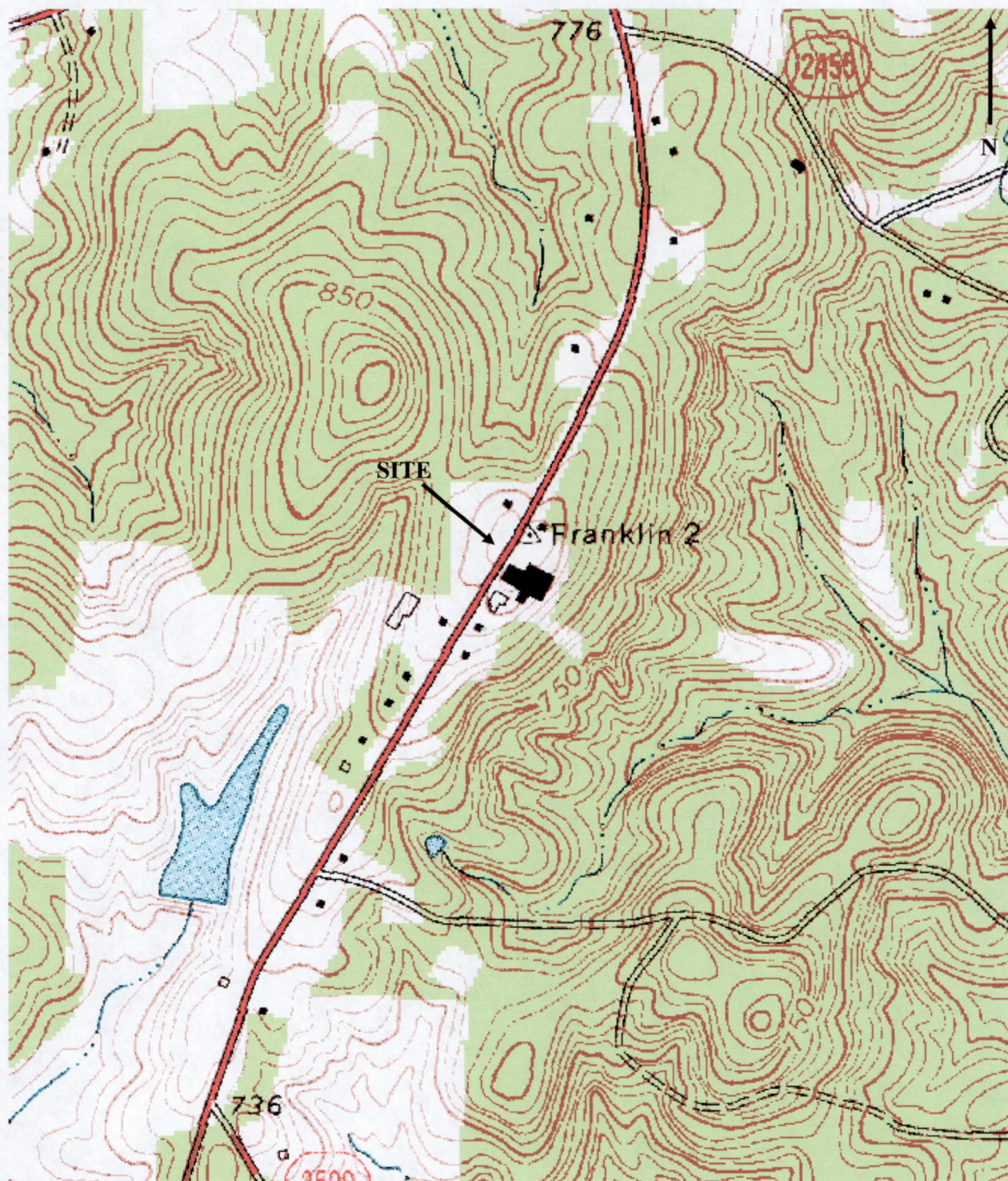
PLW - Also referred as the Parking Lot Well

Ms. Ruth Debritto,  
Smithfield Foods, Inc.  
Hancock Country Hams,  
Franklinville, North Carolina

TABLE 7: MONITORING SCHEDULE		
Sample Location/Task	Frequency	Analysis
RW-1 thru RW-7, MW-1S, MW-1D	Annually	Chloride
Creek	Annually	Chloride
Soil Chloride Area	Annually	Chloride

## FIGURES





Environmental Alliance, Inc.  
10993 South Richardson Road, Suite 17  
Ashland, Virginia 23005

SCALE:  
1"=400'

DATE:  
1/15/09

APPROVED  
BY: JSE

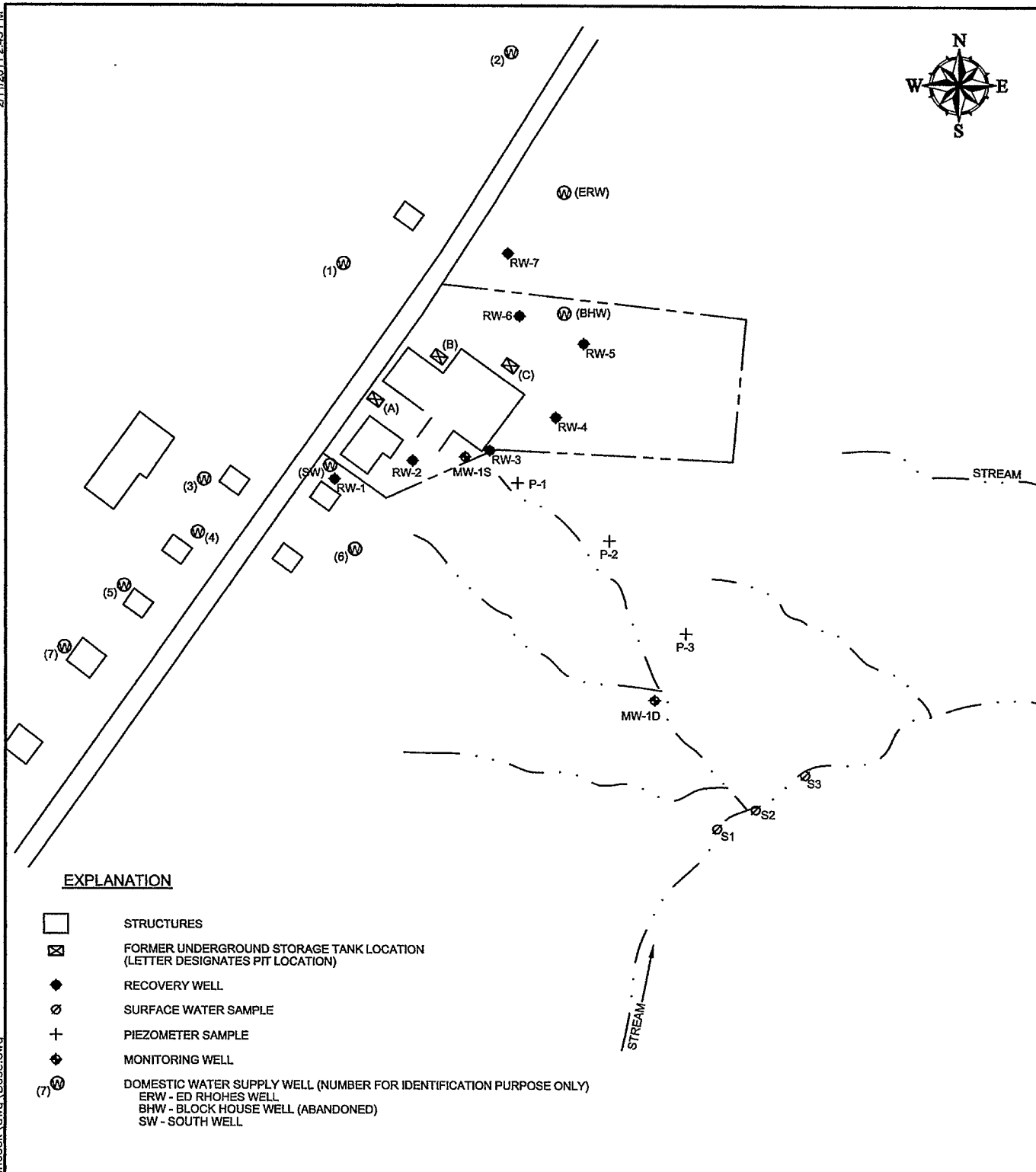
SOURCE: 1974 USGS TOPOGRAPHIC MAP, GRAYS  
CHAPEL QUADRANGLE

HANCOCK COUNTRY HAMS  
3484 NC HIGHWAY 22  
FRANKLINVILLE, NORTH CAROLINA

SITE LOCATION MAP

FIGURE  
1





# EXPLANATION

- STRUCTURES
- FORMER UNDERGROUND STORAGE TANK LOCATION (LETTER DESIGNATES PIT LOCATION)
- RECOVERY WELL
- SURFACE WATER SAMPLE
- PIEZOMETER SAMPLE
- MONITORING WELL
- DOMESTIC WATER SUPPLY WELL (NUMBER FOR IDENTIFICATION PURPOSE ONLY)
- ERW - ED RHOES WELL
- BHW - BLOCK HOUSE WELL (ABANDONED)
- SW - SOUTH WELL

0 300 600 Feet

Source: Trigon Engineering, Inc., 2008



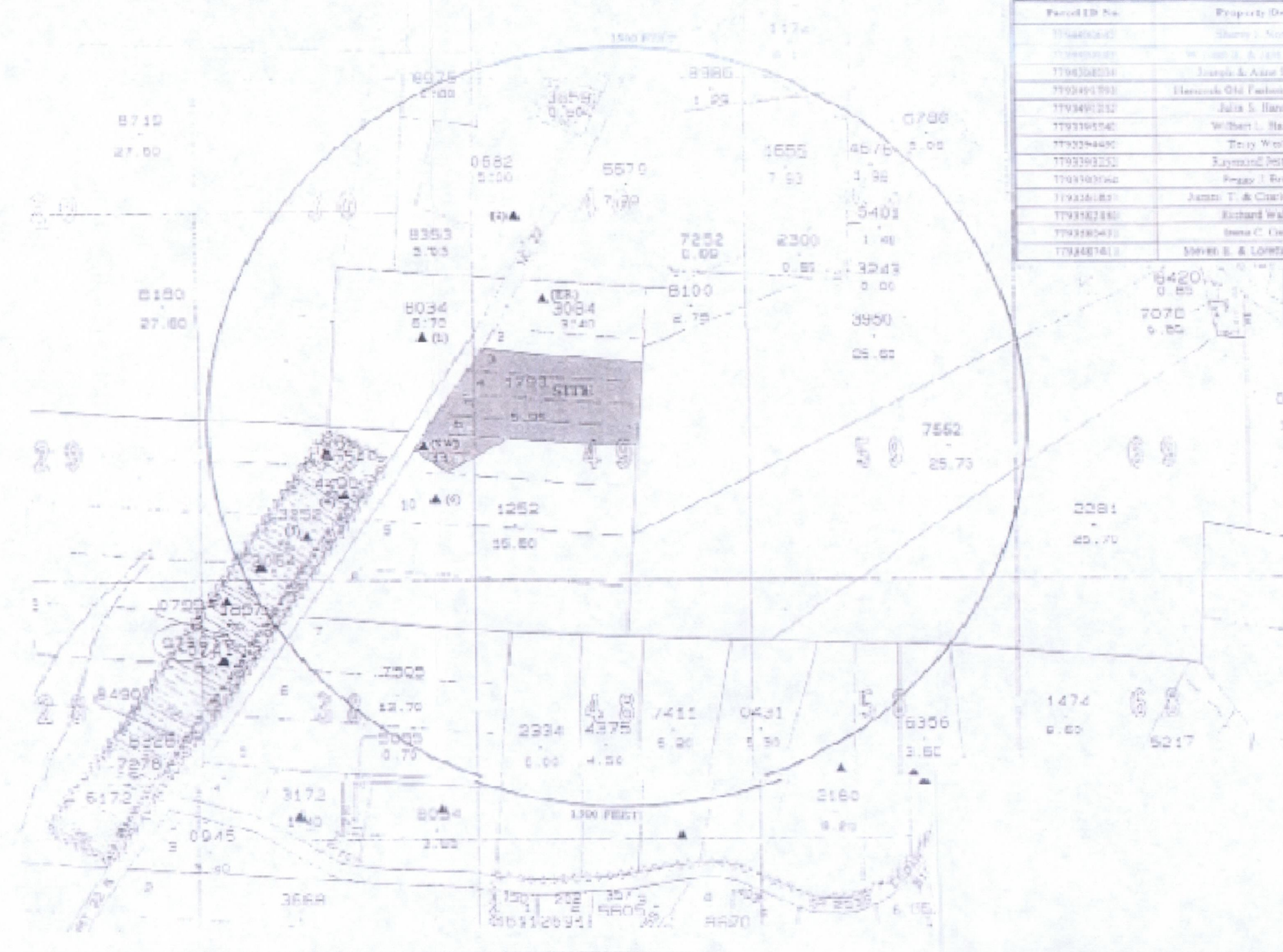
**Environmental Alliance, Inc.**  
10993 South Richardson Road, Suite 17,  
Ashland, VA 23005  
Phone: (804) 752-3558 - Fax: (804) 752-3559

**HANCOCK COUNTRY HAMS  
FRANKLINVILLE, NORT CAROLINA**

## SITE MAP

DESIGNED BY: —	DRAWN BY: AGG	UPDATED BY: —	FIGURE NO:  <b>2</b>
APPROVED BY: JSE	PROJECT NO. 2719	DATE: 2/11/2011	





Parcel ID No.	Property Owner	Property Address
1794800002	Sherry J. Norman	5571 NC Hwy 22 N, Franklinville, NC 27048
1794800003	W. John D. & Ann J. Norman	1540 NC Hwy 22 N, Franklinville, NC 27048
1794800004	Joseph & Anne Sue Bond	5111 NC Hwy 22 N, Franklinville, NC 27048
1793490000	Hancock Old Fashion CTRV Farm	3482 NC Hwy 22 N, Franklinville, NC 27048
1793490002	John S. Hancock	3496 NC Hwy 22 N, Franklinville, NC 27048
1793190000	Wilbert L. Hancock	1715 Azalea Rd. E., Franklinville, NC 27048
1793190000	Erny Wesley	P. O. Box 1080, Franklinville, NC 27048
1793190002	Raymond Peter, Jr.	5413 NC Hwy 22 N, Franklinville, NC 27048
1793190000	Peggy J. Bernier	1404 NC Hwy 22 N, Franklinville, NC 27048
1793190000	James T. & Charlotte Rivers	3267 NC Hwy 22 N, Franklinville, NC 27048
1793190000	Richard Wallace	1519 Cedar Forest Rd., Franklinville, NC 27048
1793190000	Isma C. Givens	1821 Cedar Forest Rd., Franklinville, NC 27048
1794800001	Sherry E. & Linda Thompson	3507 Cedar Forest Rd., Franklinville, NC 27048

**EXPLANATION**

- ▲ WATER SUPPLY WELL
- (1) SAMPLE IDENTIFICATION NUMBER
- 0 LOT IDENTIFICATION NUMBER

NOTE: WATER SUPPLY WELL LOCATIONS ARE APPROXIMATE.

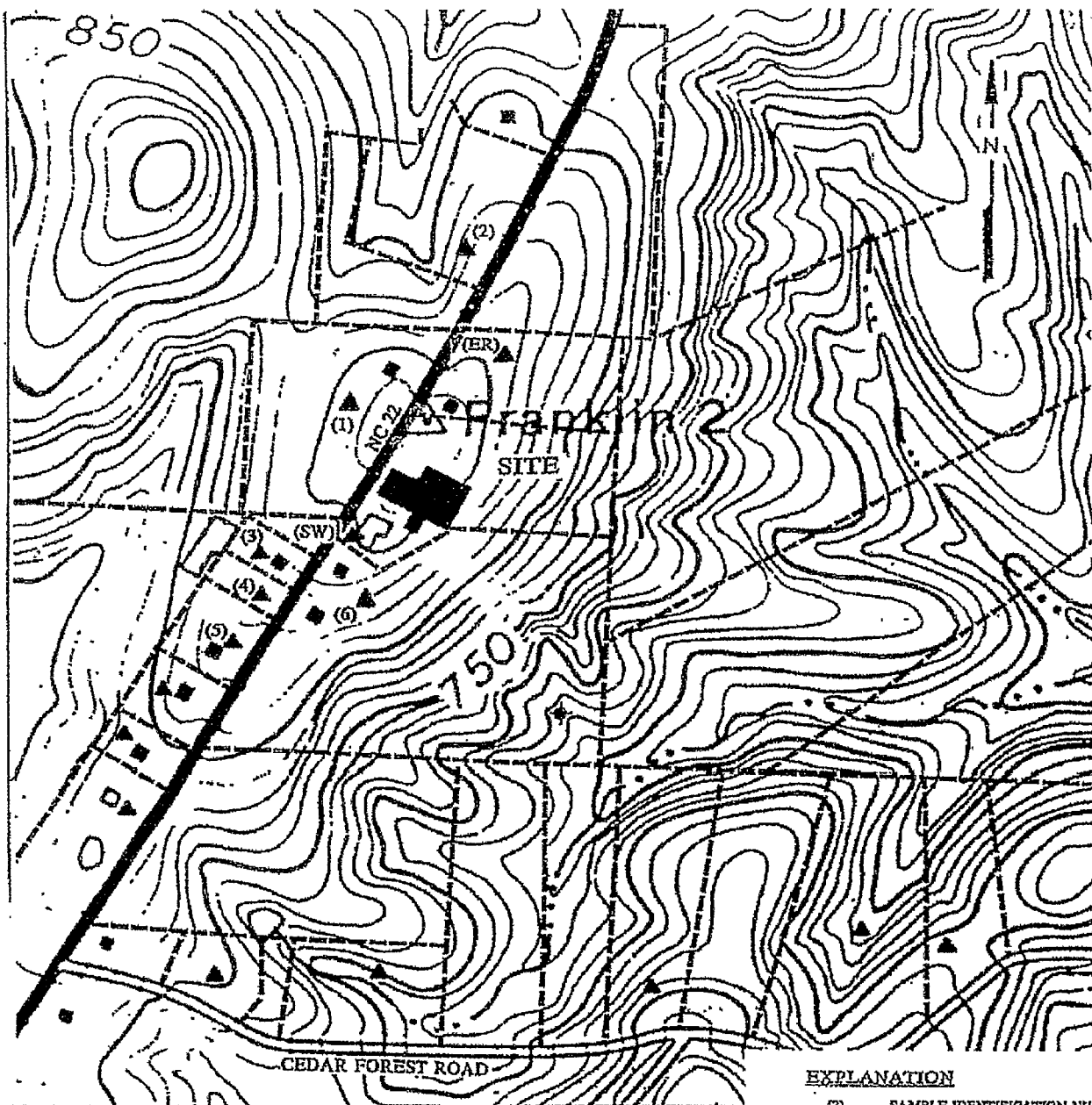
FIGURES FROM RANDOLPH COUNTY, NORTH CAROLINA 1:50,000 MAP, SHEETS 7793 AND 7794



Environmental Alliance, Inc.  
10993 South Richardson Road, Suite 17  
Ashland, Virginia 23005

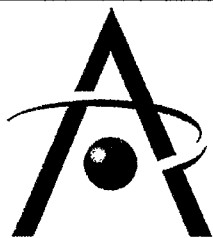
SCALE: 1" = 400'	DATE: 1/15/09	APPROVED BY: JSE	SOURCE: BPA ENVIRONMENTAL & ENGINEERING, INC. MARCH 23, 1998 REPORT
HANCOCK COUNTRY HAMS 3484 NC HIGHWAY 22 FRANKLINVILLE, NORTH CAROLINA			
WATER SUPPLY WELLS WITHIN 1500 FEET OF THE SITE			FIGURE 3





#### EXPLANATION

- (2) SAMPLE IDENTIFICATION NUMBER
- ▲ DOMESTIC WATER SUPPLY WELL
- - - - - APPROXIMATE PROPERTY BOUNDARY
- 750 - TOPOGRAPHIC CONTOUR LINE
- - - - - STREAM
- ✕ MONITORING WELL



Environmental Alliance, Inc.  
10993 South Richardson Road, Suite 17  
Ashland, Virginia 23005

SCALE:  
1" = 500

DATE:  
1/15/09

APPROVED  
BY: JSE

SOURCE: 1974 USGS TOPOGRAPHIC MAP, GRAYS  
CHAPEL QUADRANGLE

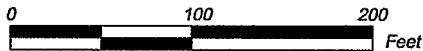
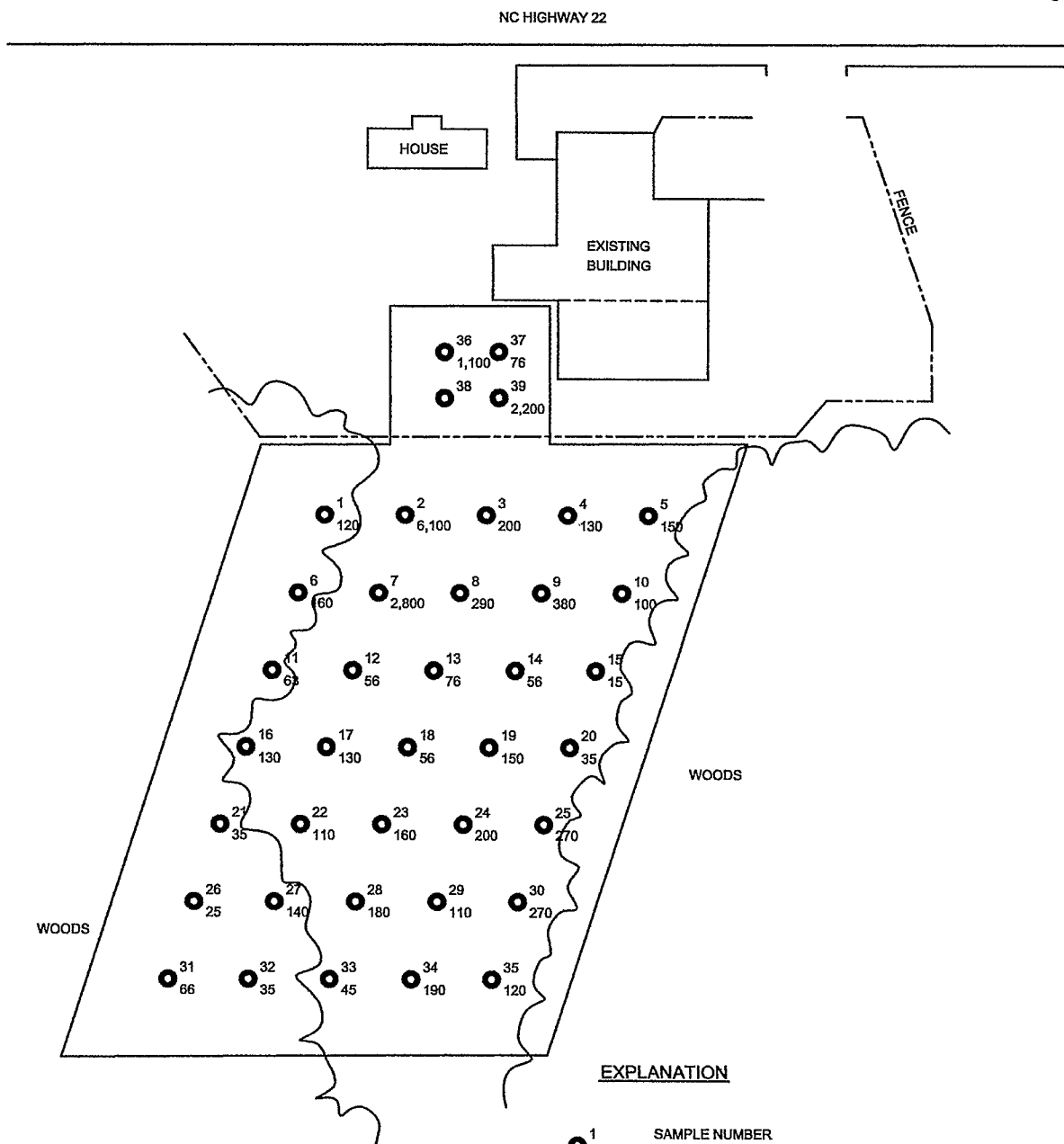
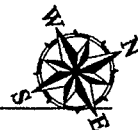
HANCOCK COUNTRY HAMS  
3484 NC HIGHWAY 22  
FRANKLINVILLE, NORTH CAROLINA

Topographic Relationship of Water Well to the Site

FIGURE  
4

2/11/2011 2:39 PM

V:\Projects\2719 Smithfield Hancock.dwg\Soil\_Chloride\_90.dwg



Source: Trigon Engineering, Inc., 2008



**Environmental Alliance, Inc.**  
10993 South Richardson Road, Suite 17,  
Ashland, VA 23005  
Phone: (804) 752-3558 - Fax: (804) 752-3559

**HANCOCK COUNTRY HAMS  
FRANKLINVILLE, NORT CAROLINA**

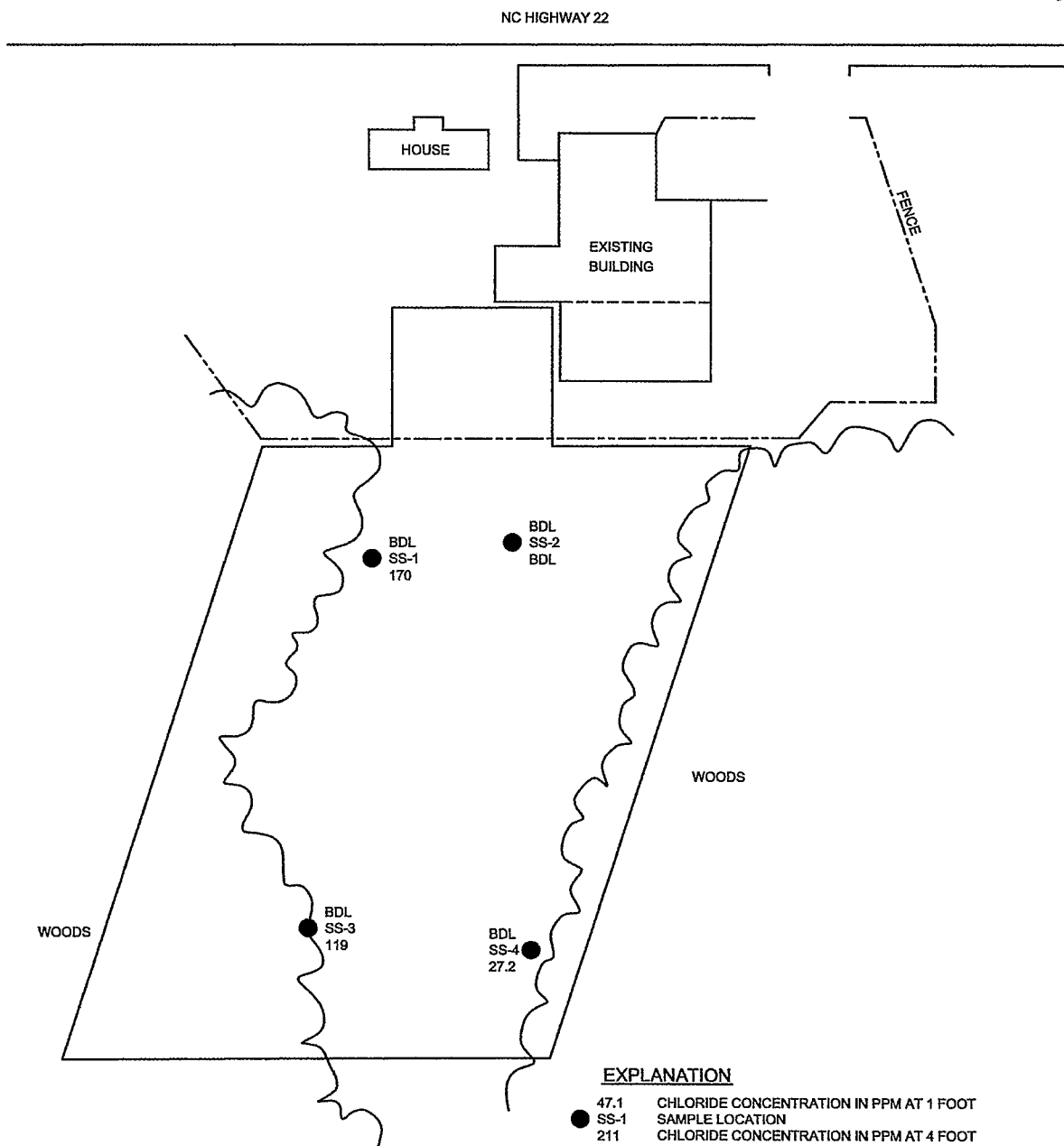
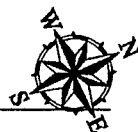
**SOIL CHLORIDE  
CONCENTRATION - 1990**

DESIGNED BY: ---	DRAWN BY: AGG	UPDATED BY: ---	FIGURE NO:  5
APPROVED BY: JSE	PROJECT NO. 2719	DATE: 2/11/2011	



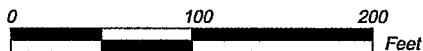
2/11/2011 2:48 PM

V:\Projects\2719\_Smithfield\_Hancock.dwg\11- January\Soil\_Chloride\_011711.dwg



**EXPLANATION**

- 47.1 CHLORIDE CONCENTRATION IN PPM AT 1 FOOT
- SS-1 SAMPLE LOCATION
- 211 CHLORIDE CONCENTRATION IN PPM AT 4 FOOT
- BDL BELOW DETECTION LIMIT
- PREVIOUS SOIL SAMPLING AREA



**Environmental Alliance, Inc.**  
 10993 South Richardson Road, Suite 17,  
 Ashland, VA 23005  
 Phone: (804) 752-3558 - Fax: (804) 752-3559

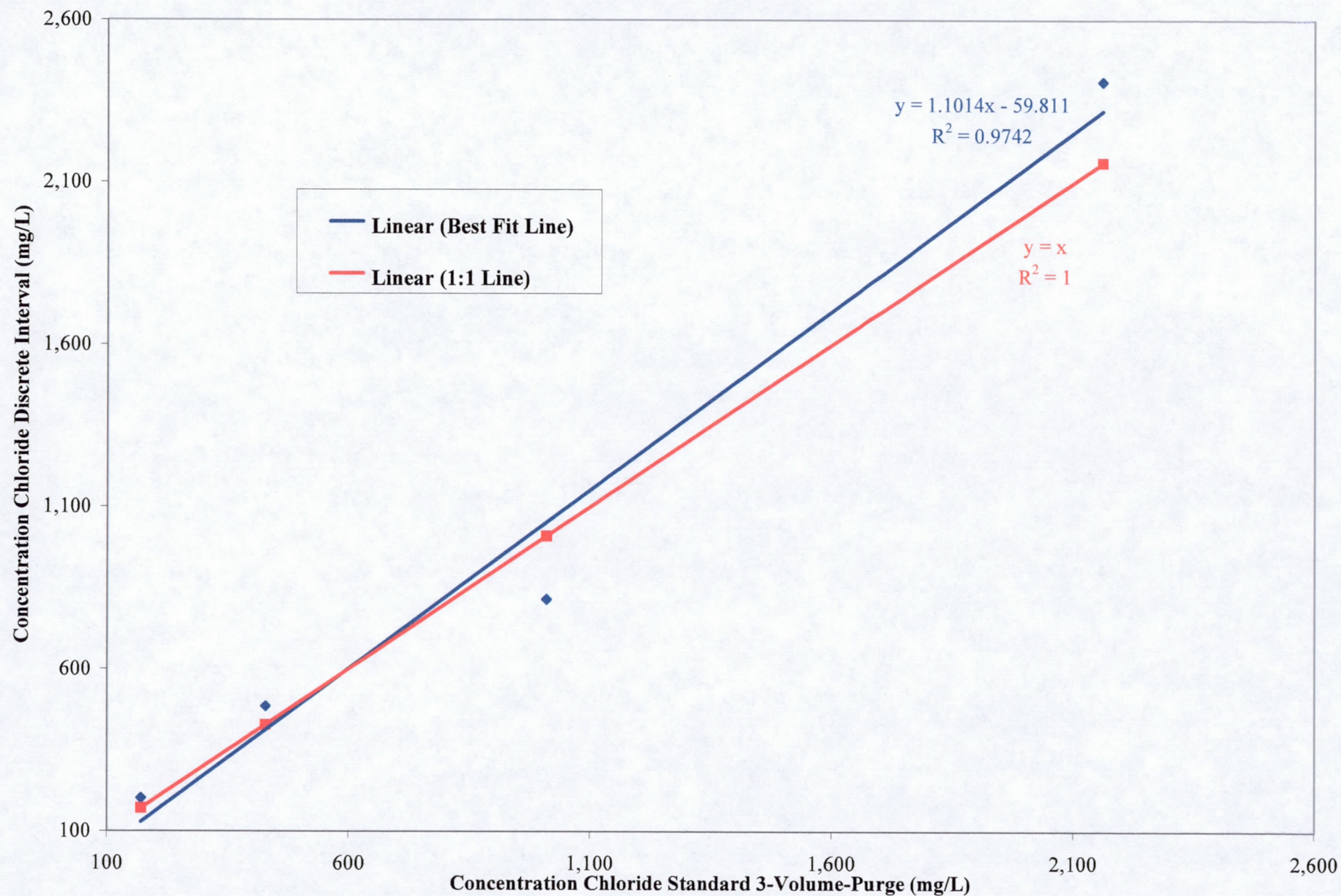
**HANCOCK COUNTRY HAMS  
 FRANKLINVILLE, NORTH CAROLINA**

**SOIL CHLORIDE  
 CONCENTRATION - 2011**

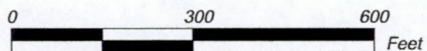
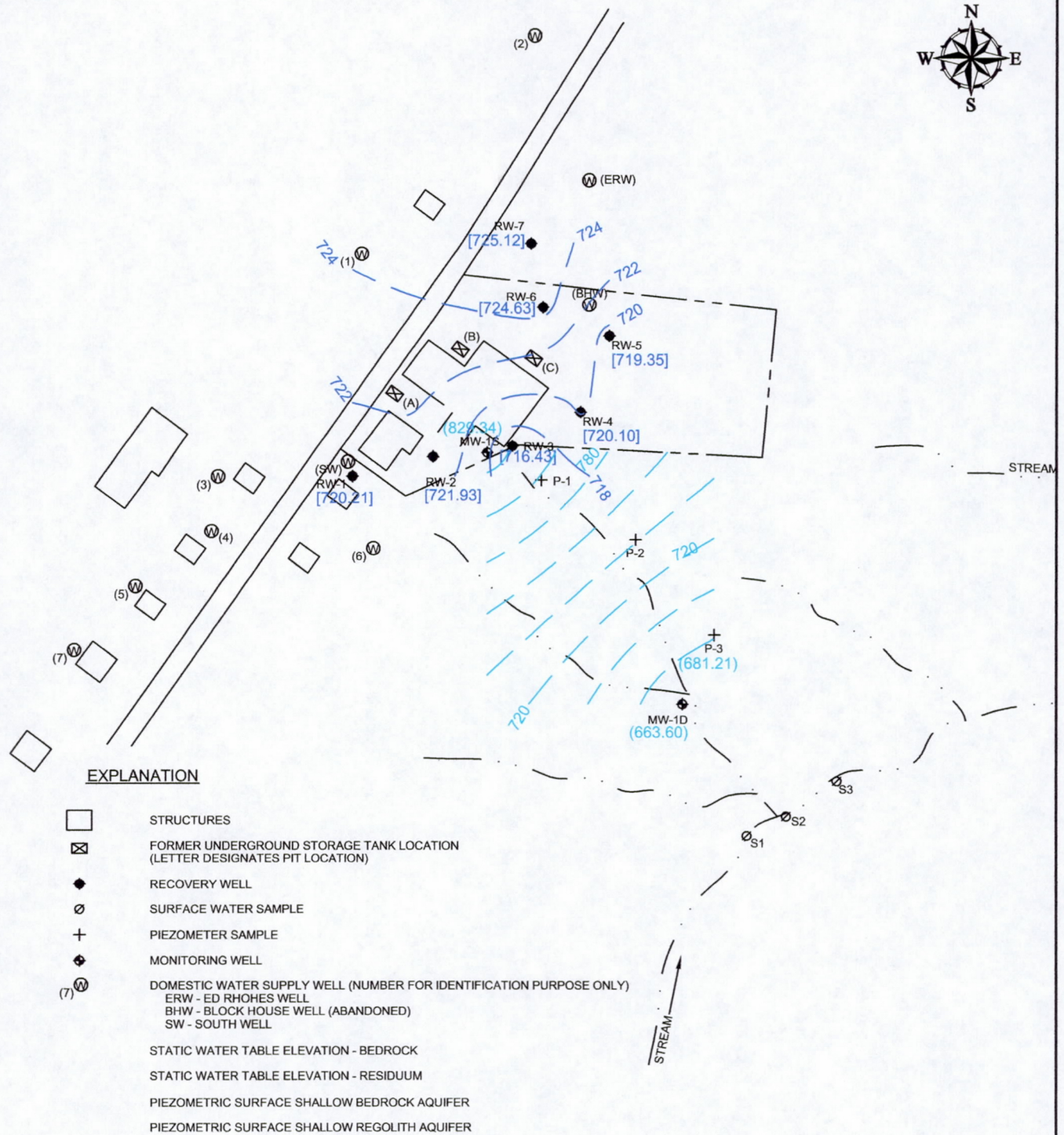
DESIGNED BY: JSE	DRAWN BY: SKJ	UPDATED BY: —	FIGURE NO:  <b>6</b>
APPROVED BY: JSE	PROJECT NO. 2719	DATE: 2/11/2011	

Source: Trigon Engineering, Inc., 2008

Figure 7  
Comparison of Chloride Results -  
Discrete Interval Sampling vs. Standard 3-Well-Volume-Purge  
Hancock County Hams, Franklinville, North Carolina







Source: Trigon Engineering, Inc., 2008

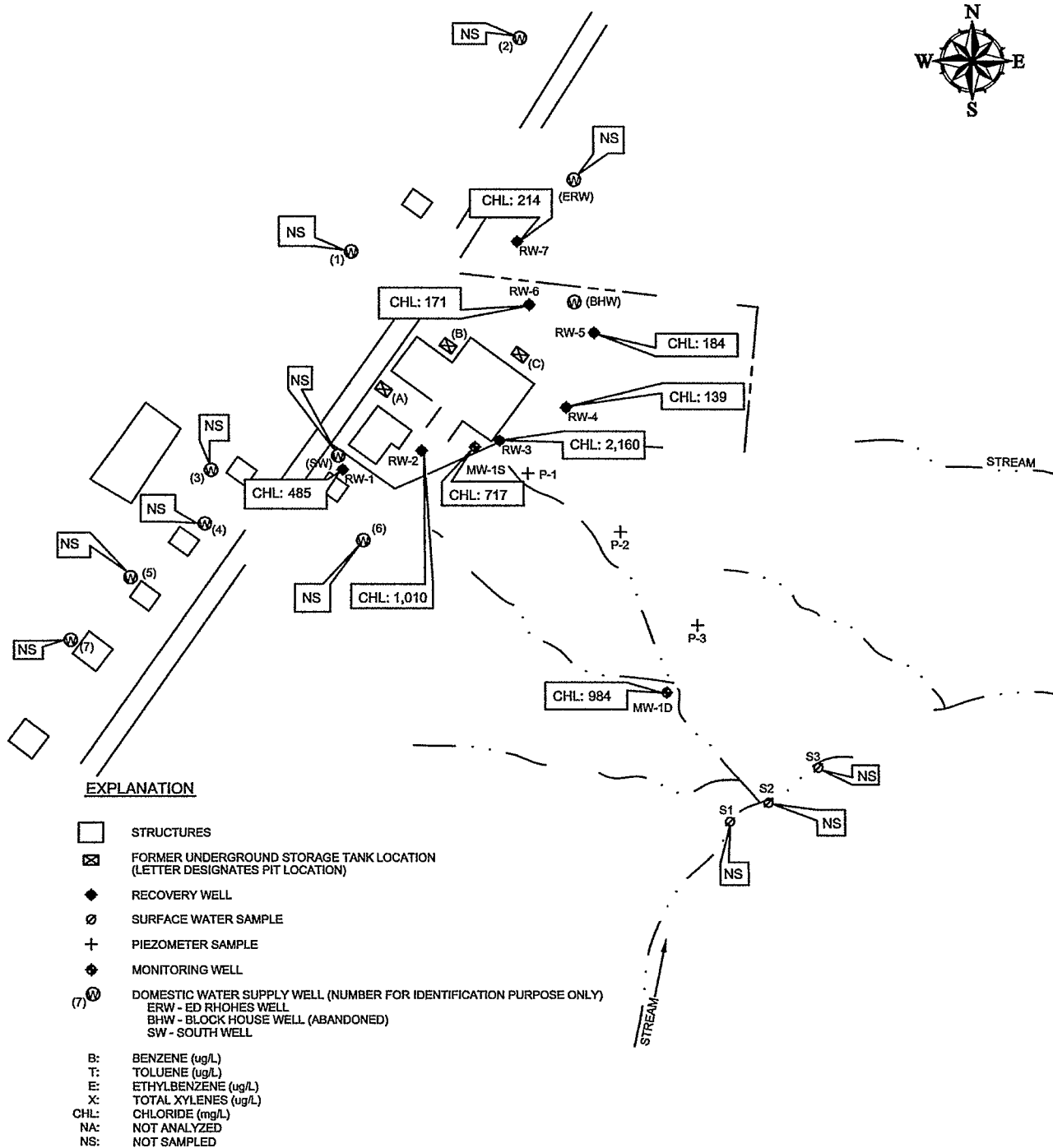


**Environmental Alliance, Inc.**  
10993 South Richardson Road, Suite 17,  
Ashland, VA 23005  
Phone: (804) 752-3558 - Fax: (804) 752-3559

**HANCOCK COUNTRY HAMS  
FRANKLINVILLE, NORTH CAROLINA**

**GROUNDWATER FLOW MAP  
JANUARY 18, 2011**

DESIGNED BY: JSE	DRAWN BY: SKJ	UPDATED BY: —	FIGURE NO:  8
APPROVED BY: JSE	PROJECT NO: 2719	DATE: 2/11/2011	



0 300 600 Feet



**Environmental Alliance, Inc.**

10993 South Richardson Road, Suite 17,  
Ashland, VA 23005

Phone: (804) 752-3558 - Fax: (804) 752-3559

**HANCOCK COUNTRY HAMS  
FRANKLINVILLE, NORTH CAROLINA**

**GROUNDWATER ANALYTICAL DATA  
JANUARY 2011**

DESIGNED BY: JSE	DRAWN BY: SKJ	UPDATED BY: --	FIGURE NO: <b>9</b>
APPROVED BY: JSE	PROJECT NO. 2719	DATE: 01/18/2011	

Source: Trigon Engineering, Inc., 2008

## APPENDICES

APPENDIX A  
LABORATORY RESULTS



Improving the environment, one client at a time...

225 Industrial Park Drive  
Beaver, WV 25813  
TEL: 304.255.2500  
FAX: 304.255.2572

3029-C Peters Creek Road  
Roanoke, VA 24019  
TEL: 540.777.1276  
FAX: 540.400.8508

101 17th Street  
Ashland, KY 41101  
TEL: 606.393.5027

1557 Commerce Road, Suite 201  
Verona, VA 24482  
TEL: 540.248.0183

February 03, 2011

Mr. Jason Early, P.G.  
ENVIRONMENTAL ALLIANCE INC  
10993 S RICHARDSON RD SUITE 17  
ASHLAND VA 23005

TEL: (804) 752-3558

FAX (804) 752-3559

RE: 2719

Order No.: 1101I26

Dear Mr. Jason Early, P.G.:

REI Consultants, Inc. received 23 sample(s) on 1/25/2011 for the analyses presented in the following report.

Please note two changes you may see on your report.

- Results for "Dissolved" parameters will be shown under a separate sample ID, rather than as a separate analysis under the same sample ID. The sample ID for "Dissolved" parameters will include "Field Filtered" or "Lab Filtered", as appropriate.
- Metals results will no longer be identified as "Total" or "Total Recoverable". The methods have not been changed, only their appearance on the report.

If you have any questions regarding these results, please do not hesitate to call.

Sincerely,

Scott Gross

Project Manager





Improving the environment, one client at a time...

225 Industrial Park Drive  
Beaver, WV 25813  
TEL: 304.255.2500  
FAX: 304.255.2572

3029-C Peters Creek Road  
Roanoke, VA 24019  
TEL: 540.777.1276  
FAX: 540.400.8508

101 17th Street  
Ashland, KY 41101  
TEL: 606.393.5027

1557 Commerce Road, Suite 201  
Verona, VA 24482  
TEL: 540.248.0183

## Report Narrative

Project Manager:: Scott Gross

WO#: 1101126

Date: 2/3/2011

CLIENT: ENVIRONMENTAL ALLIANCE INC  
Project: 2719

All analyses were performed using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. REI Consultants, Inc. (REIC) technical managers have verified compliance of reported results with the REIC's Quality Program and SOPs, except as noted in this case narrative. Any deviation from compliance or method modification is explained below and/or identified within the body of this report by a qualifier footnote which is defined at the bottom of each page.

All sample results are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as Total Trihalomethanes (TTHM) and Total Haloacetic Acids (HAA5), may vary slightly from the sum of the individual parameter results. This apparent anomaly is caused by rounding individual results and summations at reporting, as required by EPA.

Following standard laboratory protocol, sample preservation, such as pH, is verified at time of extraction or analysis based on client requested parameters. Improper preservation is noted on the analytical bench sheet, extraction log, or preservation log and client is notified by close of following business day. All results are reported using preservation compliant samples unless otherwise noted in the analytical report.

The test results in this report meet all NELAP requirements for parameters for which accreditations are required or available. Any exceptions are noted in this report. This report may not be reproduced, except in full, without the written approval of REIC.

In compliance with federal guidelines and standard operating procedures, all reports, including raw data and supporting quality control, will be disposed of after five years unless otherwise arranged by the client via written notification or contract requirement.

If you have any questions please contact the project manager whose name is listed above.



## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

<b>CLIENT:</b>	ENVIRONMENTAL ALLIANCE INC	<b>WorkOrder</b>	1101I26	<b>Lab ID</b>	1101I26-01A
<b>Client Sample ID:</b>	SS101011811835	<b>DateReceived</b>	1/25/2011		
<b>Project:</b>	2719	<b>Collection Date:</b>	1/18/2011 8:35:00 AM		
<b>Site ID:</b>	HANCOCK NORTH CAROLINA	<b>Matrix:</b>	SOIL		

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
<b>ANIONS BY IC, WATER SOLUBLE</b>			<b>SW9056</b>				
Chloride	ND	mg/Kg-dry		11.8	NA		01/31/11 5:41 PM
<b>NOTES:</b>							
Results are reported on a dry weight basis.							
<b>PERCENT MOISTURE</b>			<b>SM2540 G</b>				
Percent Moisture	15.0	wt%		0.01	NA		01/27/11 12:00 PM

<b>Key:</b>	MCL	Maximum Contaminant Level	<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 2 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-02A

Client Sample ID: SS104011811850

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 8:50:00 AM

Site ID: HANCOCK NORTH CAROLINA

Matrix: SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY IC, WATER SOLUBLE			SW9056			Analyst: CW	
Chloride	170	mg/Kg-dry		13.4	NA		01/31/11 5:58 PM
NOTES:							
Results are reported on a dry weight basis.							
PERCENT MOISTURE			SM2540 G			Analyst: DP	
Percent Moisture	25.1	wt%		0.01	NA		01/27/11 12:00 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 3 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-03A

Client Sample ID: SS2010118111120

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 11:20:00 AM

Site ID: HANCOCK NORTH CAROLINA

Matrix: SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY IC, WATER SOLUBLE			SW9056			Analyst: CW	
Chloride	ND	mg/Kg-dry		13.0	NA		01/31/11 6:15 PM
NOTES:							
Results are reported on a dry weight basis.							
PERCENT MOISTURE			SM2540 G			Analyst: DP	
Percent Moisture	23.1	wt%		0.01	NA		01/27/11 12:00 PM

Key: MCL Maximum Contaminant Level  
MDL Minimum Detection Limit  
NA Not Applicable  
ND Not Detected at the PQL or MDL  
PQL Practical Quantitation Limit  
TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank  
E Estimated Value above quantitation range  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate Recovery exceeds REIC control limits  
\* Value exceeds MCL or Regulatory Limits

Page 4 of 24

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

<b>CLIENT:</b>	ENVIRONMENTAL ALLIANCE INC	<b>WorkOrder</b>	1101I26	<b>Lab ID</b>	1101I26-04A
<b>Client Sample ID:</b>	SS2040118111134	<b>DateReceived</b>	1/25/2011		
<b>Project:</b>	2719	<b>Collection Date:</b>	1/18/2011 11:34:00 AM		
<b>Site ID:</b>	HANCOCK NORTH CAROLINA	<b>Matrix:</b>	SOIL		

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
<b>ANIONS BY IC, WATER SOLUBLE</b>			<b>SW9056</b>			Analyst: <b>CW</b>	
Chloride	ND	mg/Kg-dry		13.3	NA		01/31/11 6:31 PM
<b>NOTES:</b>							
Results are reported on a dry weight basis.							
<b>PERCENT MOISTURE</b>			<b>SM2540 G</b>			Analyst: <b>DP</b>	
Percent Moisture	24.6	wt%		0.01	NA		01/27/11 12:00 PM

<b>Key:</b>	MCL	Maximum Contaminant Level	<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 5 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-05A

Client Sample ID: SS3010118111148

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 11:48:00 AM

Site ID: HANCOCK NORTH CAROLINA

Matrix: SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY IC, WATER SOLUBLE			SW9056			Analyst: CW	
Chloride	ND	mg/Kg-dry		12.0	NA		01/31/11 6:48 PM
NOTES:							
Results are reported on a dry weight basis.							
PERCENT MOISTURE			SM2540 G			Analyst: DP	
Percent Moisture	16.9	wt%		0.01	NA		01/27/11 12:00 PM

Key: MCL Maximum Contaminant Level  
MDL Minimum Detection Limit  
NA Not Applicable  
ND Not Detected at the PQL or MDL  
PQL Practical Quantitation Limit  
TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank  
E Estimated Value above quantitation range  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate Recovery exceeds REIC control limits  
\* Value exceeds MCL or Regulatory Limits

Page 6 of 24

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

<b>CLIENT:</b>	ENVIRONMENTAL ALLIANCE INC	<b>WorkOrder</b>	1101I26	<b>Lab ID</b>	1101I26-06A
<b>Client Sample ID:</b>	SS3040118111158	<b>DateReceived</b>	1/25/2011		
<b>Project:</b>	2719	<b>Collection Date:</b>	1/18/2011 11:58:00 AM		
<b>Site ID:</b>	HANCOCK NORTH CAROLINA	<b>Matrix:</b>	SOIL		

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
<b>ANIONS BY IC, WATER SOLUBLE</b>			<b>SW9056</b>			Analyst: <b>CW</b>	
Chloride	119	mg/Kg-dry		12.0	NA		01/31/11 7:05 PM
<b>NOTES:</b>							
Results are reported on a dry weight basis.							
<b>PERCENT MOISTURE</b>			<b>SM2540 G</b>			Analyst: <b>DP</b>	
Percent Moisture	16.7	wt%		0.01	NA		01/27/11 12:00 PM

<b>Key:</b>	MCL	Maximum Contaminant Level	<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 7 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-07A

Client Sample ID: SS4010118111218

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 12:18:00 PM

Site ID: HANCOCK NORTH CAROLINA

Matrix: SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY IC, WATER SOLUBLE			SW9056			Analyst: CW	
Chloride	ND	mg/Kg-dry		12.6	NA		01/31/11 7:22 PM
NOTES:							
Results are reported on a dry weight basis.							
PERCENT MOISTURE			SM2540 G			Analyst: DP	
Percent Moisture	20.5	wt%		0.01	NA		01/27/11 12:00 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 8 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

Client Sample ID: SS4040118111232

Project: 2719

Site ID: HANCOCK NORTH CAROLINA

WorkOrder 1101126 Lab ID 1101126-08A

DateReceived 1/25/2011

Collection Date: 1/18/2011 12:32:00 PM

Matrix: SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY IC, WATER SOLUBLE			SW9056			Analyst: CW	
Chloride	27.2	mg/Kg-dry		13.1	NA		01/31/11 9:04 PM
NOTES:	Results are reported on a dry weight basis.						
PERCENT MOISTURE			SM2540 G			Analyst: DP	
Percent Moisture	23.5	wt%		0.01	NA		01/27/11 12:00 PM

Key: MCL Maximum Contaminant Level  
MDL Minimum Detection Limit  
NA Not Applicable  
ND Not Detected at the PQL or MDL  
PQL Practical Quantitation Limit  
TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank  
E Estimated Value above quantitation range  
H Holding times for preparation or analysis exceeded  
S Spike/Surrogate Recovery exceeds REIC control limits  
\* Value exceeds MCL or Regulatory Limits



REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-09A

Client Sample ID: RW10118111010

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 10:10:00 AM

Site ID: HANCOCK NORTH CAROLINA

Matrix: GROUNDWATER

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	428	mg/L		10.0	NA		01/27/11 12:13 PM

Key: MCL Maximum Contaminant Level

MDL Minimum Detection Limit

NA Not Applicable

ND Not Detected at the PQL or MDL

PQL Practical Quantitation Limit

TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank

E Estimated Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike/Surrogate Recovery exceeds REIC control limits

\* Value exceeds MCL or Regulatory Limits

Page 10 of 24

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-10A		
Client Sample ID:	RW20118111426	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/18/2011 2:26:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	1,010	mg/L		25.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 11 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-11A

Client Sample ID: RW30118111312

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 1:12:00 PM

Site ID: HANCOCK NORTH CAROLINA

Matrix: GROUNDWATER

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	2,160	mg/L		100	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 12 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-12A

Client Sample ID: RW40118111251

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 12:51:00 PM

Site ID: HANCOCK NORTH CAROLINA

Matrix: GROUNDWATER

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	139	mg/L		10.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 13 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-13A		
Client Sample ID:	RW50118111400	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/18/2011 2:00:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	184	mg/L		10.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 14 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-14A

Client Sample ID: RW60118111032

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/18/2011 10:32:00 AM

Site ID: HANCOCK NORTH CAROLINA

Matrix: GROUNDWATER

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	171	mg/L		10.0	NA		01/27/11 12:13 PM

Key: MCL Maximum Contaminant Level

MDL Minimum Detection Limit

NA Not Applicable

ND Not Detected at the PQL or MDL

PQL Practical Quantitation Limit

TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank

E Estimated Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike/Surrogate Recovery exceeds REIC control limits

\* Value exceeds MCL or Regulatory Limits

Page 15 of 24

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-15A		
Client Sample ID:	RW70118111435	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/18/2011 2:35:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	214	mg/L		10.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 16 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-16A		
Client Sample ID:	MW1S0117111645	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/17/2011 4:45:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	717	mg/L		100	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 17 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				



REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-17A		
Client Sample ID:	MW1D011811800	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/18/2011 8:00:00 AM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	984	mg/L		100	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 18 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT: ENVIRONMENTAL ALLIANCE INC

WorkOrder 1101I26 Lab ID 1101I26-18A

Client Sample ID: RW3D1350117111135

DateReceived 1/25/2011

Project: 2719

Collection Date: 1/17/2011 11:35:00 AM

Site ID: HANCOCK NORTH CAROLINA

Matrix: GROUNDWATER

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	2,490	mg/L		100	NA		01/27/11 12:13 PM

Key: MCL Maximum Contaminant Level

MDL Minimum Detection Limit

NA Not Applicable

ND Not Detected at the PQL or MDL

PQL Practical Quantitation Limit

TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank

E Estimated Value above quantitation range

H Holding times for preparation or analysis exceeded

S Spike/Surrogate Recovery exceeds REIC control limits

\* Value exceeds MCL or Regulatory Limits

Page 19 of 24

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-19A		
Client Sample ID:	RW3D2250117111224	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/17/2011 12:24:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	2,480	mg/L		100	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 20 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-20A
Client Sample ID:	RW3D3250117111300	DateReceived	1/25/2011		
Project:	2719	Collection Date:	1/17/2011 1:00:00 PM		
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER		

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	2,410	mg/L		100	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 21 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-21A		
Client Sample ID:	RW1D2000117111450	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/17/2011 2:50:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	485	mg/L		10.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 22 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-22A		
Client Sample ID:	RW2D3800117111358	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/17/2011 1:58:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	815	mg/L		25.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 23 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

REI Consultants, Inc.

## Analytical Results

Date: 03-Feb-11

CLIENT:	ENVIRONMENTAL ALLIANCE INC	WorkOrder	1101I26	Lab ID	1101I26-23A		
Client Sample ID:	RW6D2500117111600	DateReceived	1/25/2011				
Project:	2719	Collection Date:	1/17/2011 4:00:00 PM				
Site ID:	HANCOCK NORTH CAROLINA	Matrix:	GROUNDWATER				
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY			E300.0			Analyst: JJ	
Chloride	202	mg/L		25.0	NA		01/27/11 12:13 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits	
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits	Page 24 of 24
	TIC	Tentatively Identified Compound, Estimated Concentration				

## DBPix Evaluation

### CHAIN OF CUSTODY RECORD



Research Environmental &amp; Industrial Consultants, Inc.

MAIN LABORATORY & CORPORATE HEADQUARTERS:

P.O. Box 236 • 225 Industrial Park Rd. • New York, NY 12501

800-952-0195 • 304-235-1400 • [www.mercklabs.com](http://www.mercklabs.com)

**MID-ONIO VALLEY**  
Service Center  
209 15th Street  
Ashland, KY 41101  
606-593-5027

**SHERANDOAH**  
Service Center  
1557 Commerce Rd., Ste. 201  
Verona, VA 24482  
540-745-0123

**ROANOKE**  
Service Center  
3029 C Peters Creek Rd  
Roanoke, VA 24019  
540-777-1276

## SAMPLE LOG & ANALYSIS REQUEST

TURNAROUND TIME                      RUSH TURNAROUND

☒ NORMAL                      ☐ 5 DAY    ☐ 3 DAY    ☐ 2 DAY    ☐ 1 DAY

\*Rush work order prior laboratory approval and will incur additional charges

[illegible]

All analytical methods are subject to RSC's Standard Terms and Conditions.

Temperature at arrival: ☒  $\leq 10^{\circ}\text{C}$  ☐  $10^{\circ}\text{C}$  ☒  $15^{\circ}\text{C}$  ☐  $20^{\circ}\text{C}$

## APPENDIX C

0 None	4 Sodium Thiosulfate
1 Hydrochloric Acid	5 Sodium Hydroxide
2 Nitric Acid	6 Zinc Acetate
3 Sulfuric Acid	7 EDTA

COMMENTS:

**www.ammara.com**



## CHAIN OF CUSTODY RECORD



Research Environmental &amp; Industrial Consultants, Inc.

## MAIN LABORATORY &amp; CORPORATE HEADQUARTERS:

P.O. Box 786 • 225 Industrial Park Rd. Beaver, WV 25813  
800-999-1105 • 304-255-2500 • www.reiclabs.comMID-OHIO VALLEY  
Service Center  
709 15th Street  
Ashland, KY 41101  
800-355-5677SHENANDOAH  
Service Center  
1357 Commerce Rd., Ste. 201  
Virginia, VA 24482  
540-248-0183ROANOKE  
Service Center  
3029-C Petrus Creek Rd.  
Roanoke, VA 24019  
540-777-1276

v5-1109

REIC USE ONLY

CLIENT ID

DATE

SHEET

Client: Environmental Alliance, Inc.

PIS # 345

Contact Person: Jason Early

Phone: 804-762-3568

Address: 10993 Richardson Road, Suite 17

City: Ashland

State: VA

Zip: 23005

Billing Address (if different):

City: Ashland

State: VA

Zip: 23005

Site ID &amp; State: Hancock North Carolina

Project ID: 2710

Sample: Matt Richardson

## SAMPLE LOG &amp; ANALYSIS REQUEST

## TURNAROUND TIME



NORMAL

## RUSH TURNAROUND



5 DAY



3 DAY



2 DAY



1 DAY

\*Rush work needs prior laboratory approval and will incur additional charges.

ANALYSIS &amp; METHOD REQUESTED

Chloride E200.0

SAMPLE ID	No. & Type of Containers	Sampling Date/Time	Matrix	Sample Comp/Grab	0														
RW10118111010	1	01/18/11 1010	GWater	Grab	✓														
RW20118111426	1	01/18/11 1426	GWater	Grab	✓														
RW30118111312	1	01/18/11 1312	GWater	Grab	✓														
RW40118111251	1	01/18/11 1251	GWater	Grab	✓														
RW50118111400	1	01/18/11 1400	GWater	Grab	✓														
RW60118111032	1	01/18/11 1032	GWater	Grab	✓														
RW70118111435	1	01/18/11 1435	GWater	Grab	✓														
MW1S0117111645	1	01/17/11 1645	GWater	Grab	✓														
MW1D011811800	1	01/18/11 800	GWater	Grab	✓														

## ENTER PRESERVATIVE CODE:

- |                     |                    |
|---------------------|--------------------|
| 0 None              | 4 Sodium Hydroxide |
| 1 Hydrochloric Acid | 5 Sodium Hydroxide |
| 2 Nitric Acid       | 6 Zinc Acetate     |
| 3 Sulfuric Acid     | 7 EDTA             |

## COMMENTS:

All analytical requests are subject to REIC's Standard Terms and Conditions.

Temperature at arrival: 6 °C

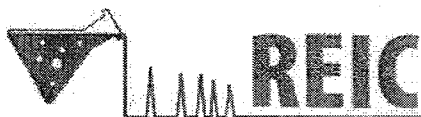
ICED?

Y

N

 Date: 1/24/11 Title: Project Manager	 Date: 1/24/11 Title: Project Manager	 Date: 1/24/11 Title: Project Manager	 Date: 1/24/11 Title: Project Manager
---	---	---	---

## CHAIN OF CUSTODY RECORD



Research Environmental &amp; Industrial Consultants, Inc.

## MAIN LABORATORY &amp; CORPORATE HEADQUARTERS:

P.O. Box 286 • 205 Industrial Park Rd., Belair, WV 25813  
800-999-0105 • 304-255-2500 • www.reiclabs.comMID-OHIO VALLEY  
Service Center  
205 15th Street  
Ashland, KY 41101  
606-393-5627SHENANDOAH  
Service Center  
1537 Commerce Rd., Ste. 201  
Verona, VA 24482  
940-248-0183ROANOKE  
Service Center  
3029-C Peters Creek Rd  
Roanoke, VA 24019  
540-277-1278

V5-1109

REIC use  
ONLY

CLIENT ID

DATE

SHEET

Client: Environmental Alliance, Inc.

PO # 345

Contact Person: Jason Early

Phone: 804-752-3558

Address: 10693 Richardson Road, Suite 17

City: Ashland

State: VA

Zip: 23005

Billing Address (if different)

City: Ashland

State: VA

Zip: 23005

Site ID &amp; State: Hancock North Carolina

Project ID: 2719

Sampler: Matt Richardson

## SAMPLE LOG &amp; ANALYSIS REQUEST

## TURNAROUND TIME



NORMAL



5 DAY



3 DAY



2 DAY



1 DAY

\*Rush work needs prior laboratory approval and will incur additional charges

## RUSH TURNAROUND

SAMPLE ID	No. & Type of Containers	Sampling Date/Time	Matrix	Sample Comp/Grab	0															
RW3D135011711135	1	01/17/11 1135	GWater	Grab	✓															
RW3D2250117111224	1	01/17/11 1224	GWater	Grab	✓															
RW3D3250117111300	1	01/17/11 1300	GWater	Grab	✓															
RW1D2000117111450	1	01/17/11 1450	GWater	Grab	✓															
RW2D3800117111358	1	01/17/11 1358	GWater	Grab	✓															
RW6D2500117111600	1	01/17/11 1600	GWater	Grab	✓															
	1		Choose	Choose																
	1		Choose	Choose																
	1		Choose	Choose																

## ENTER PRESERVATIVE CODE:

- |                     |                      |
|---------------------|----------------------|
| 0 None              | 4 Sodium Thiosulfate |
| 1 Hydrochloric Acid | 5 Sodium Hydroxide   |
| 2 Nitric Acid       | 6 Zinc Acetate       |
| 3 Sulfuric Acid     | 7 EDTA               |

## COMMENTS:

All analytical requests are subject to REIC's Standard Terms and Conditions.

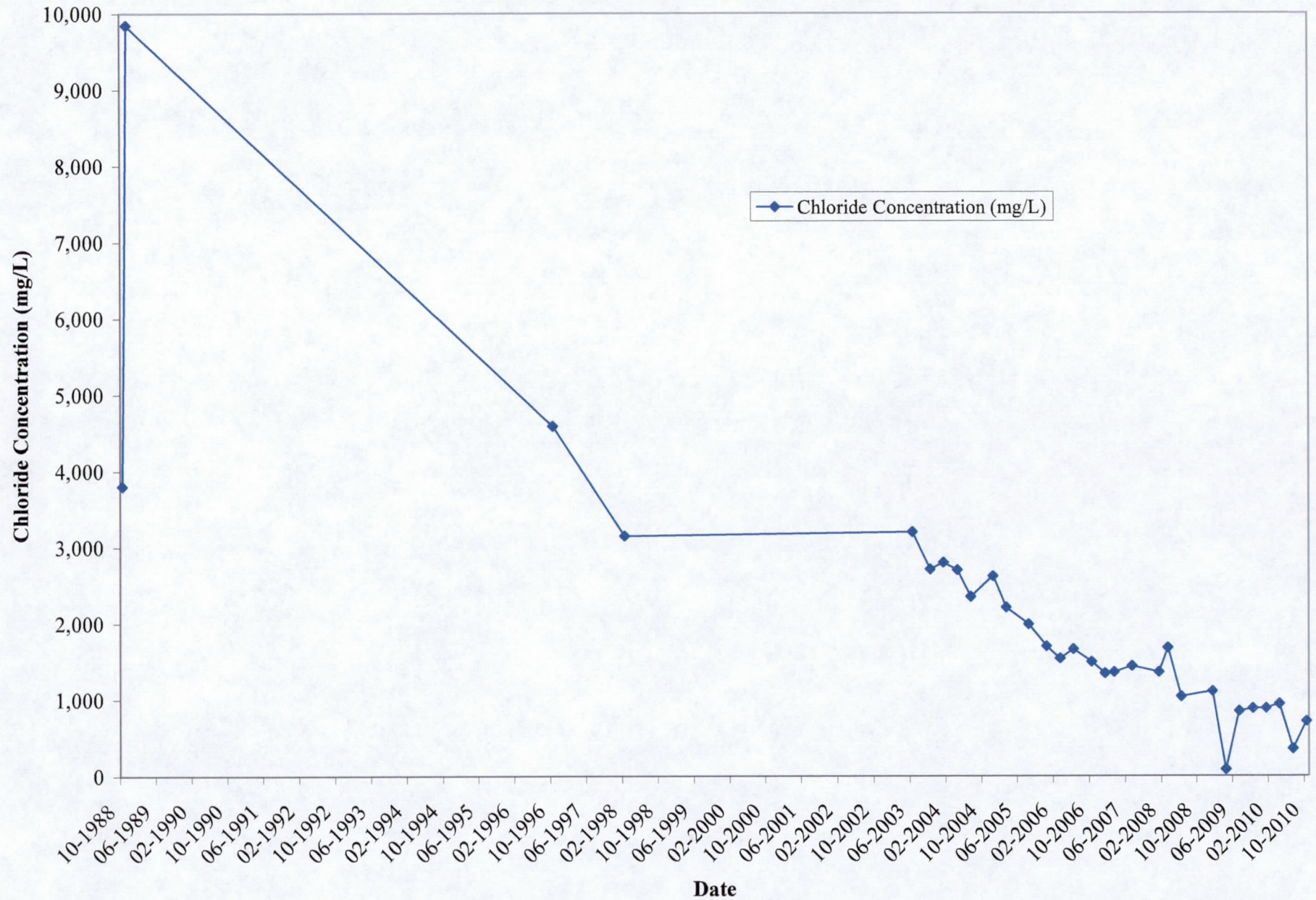
Temperature at arrival: / °C

ICED? Y

N

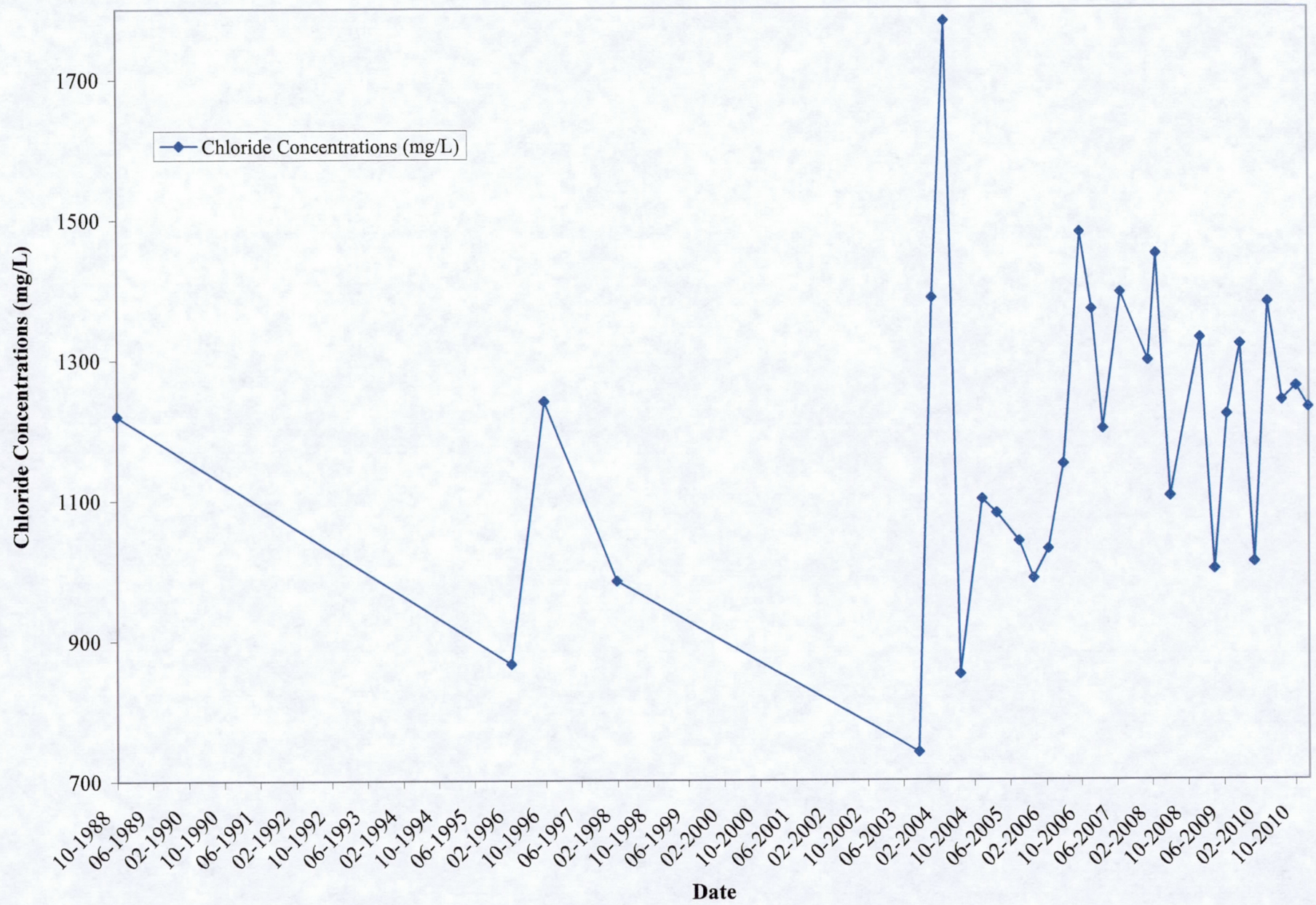
APPENDIX B  
CHLORIDE TIME SERIES GRAPHS

MW-1S Chloride Concentration Over Time



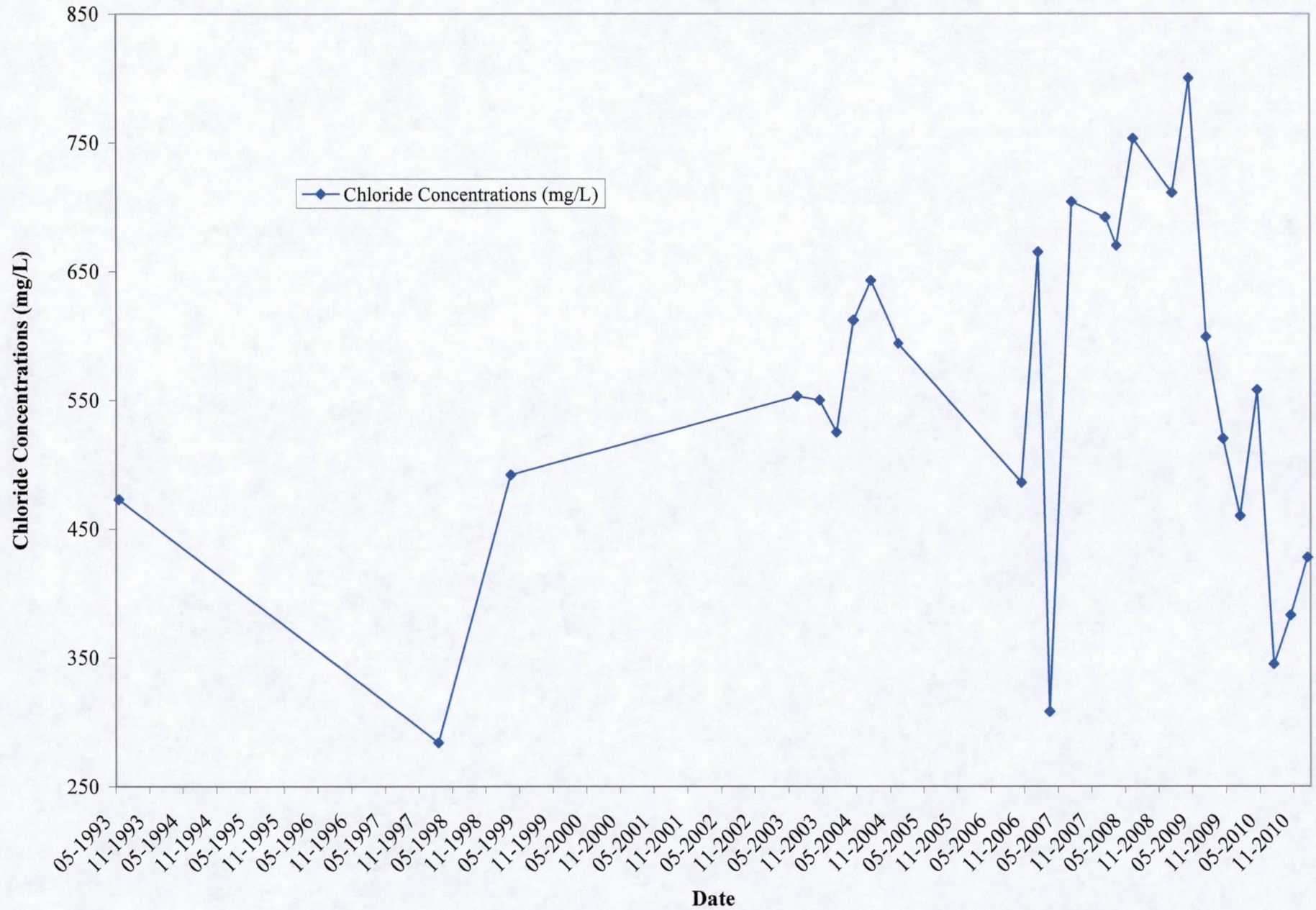


MW-1D Chloride Concentrations Over Time



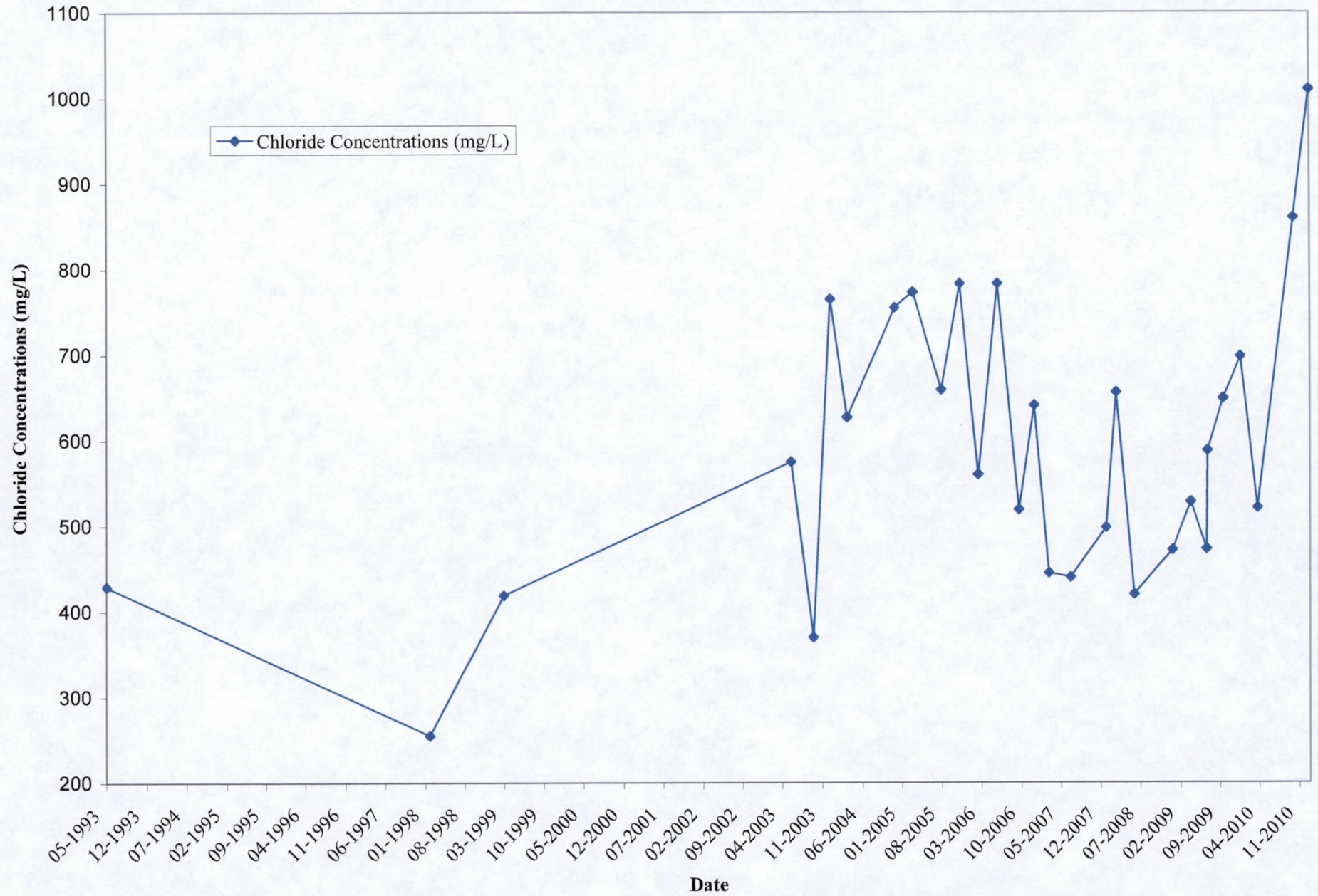


RW-1 Chloride Concentrations Over Time



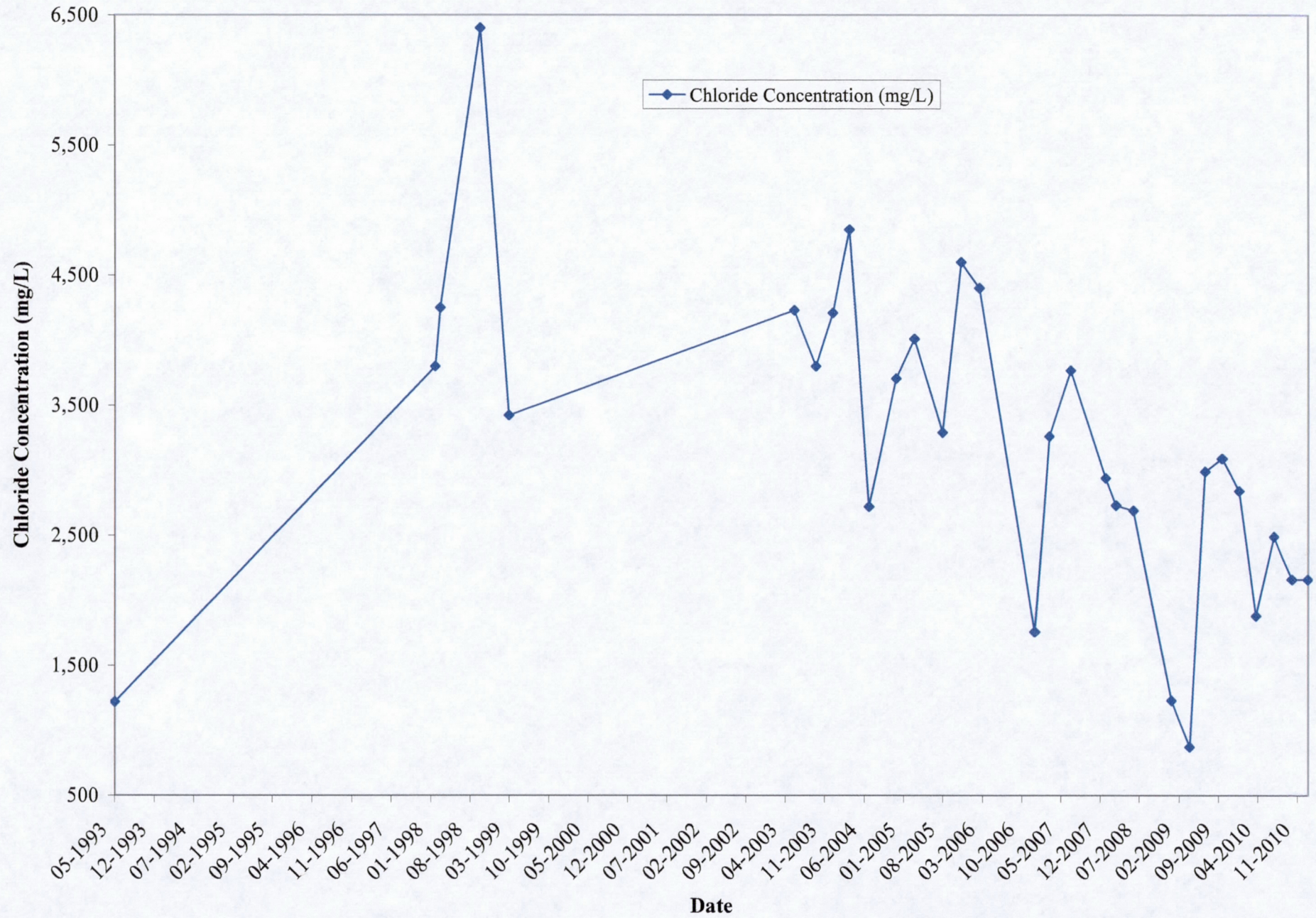


RW-2 Chloride Concentrations Over Time



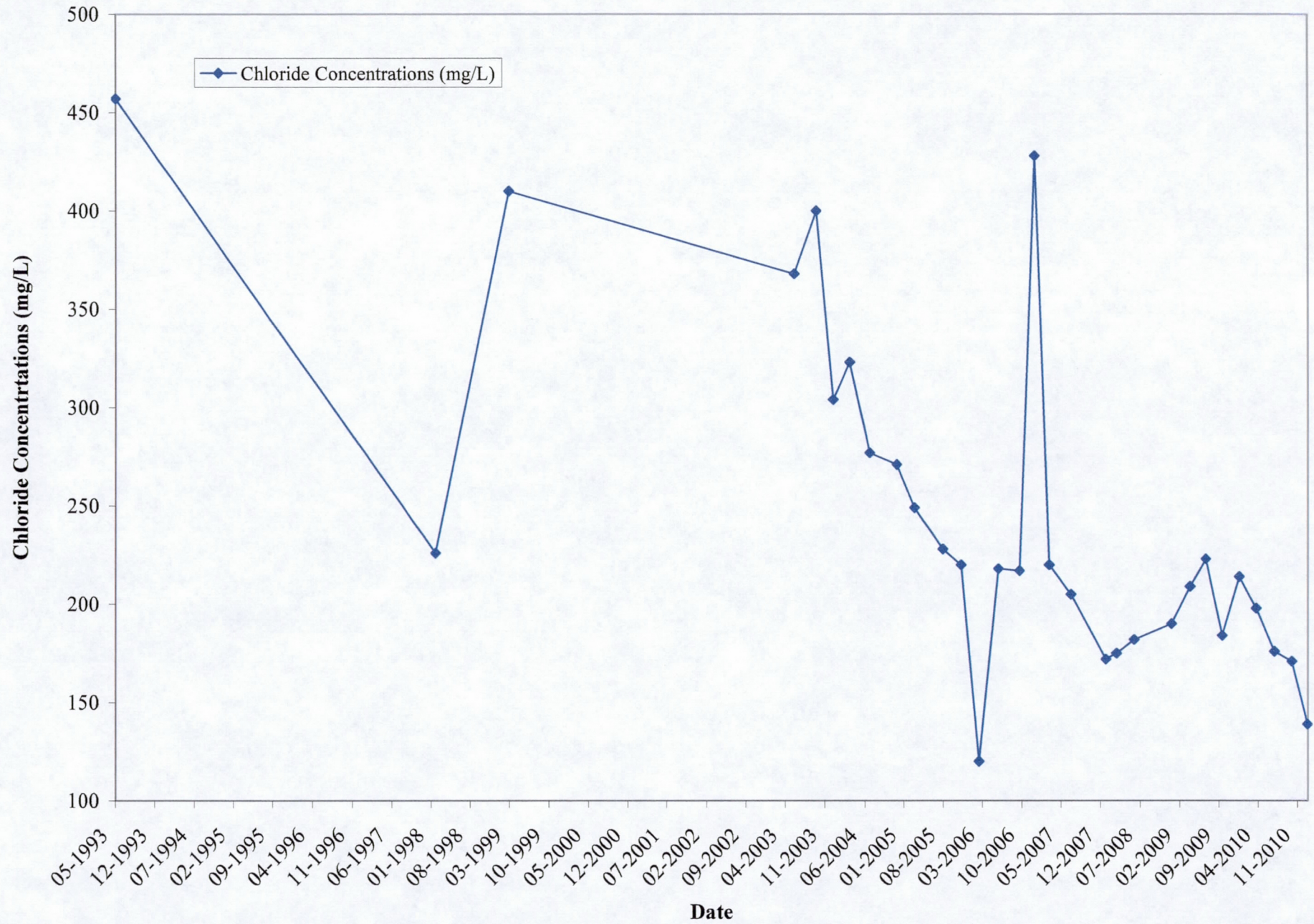


RW-3 Chloride Concentration Over Time



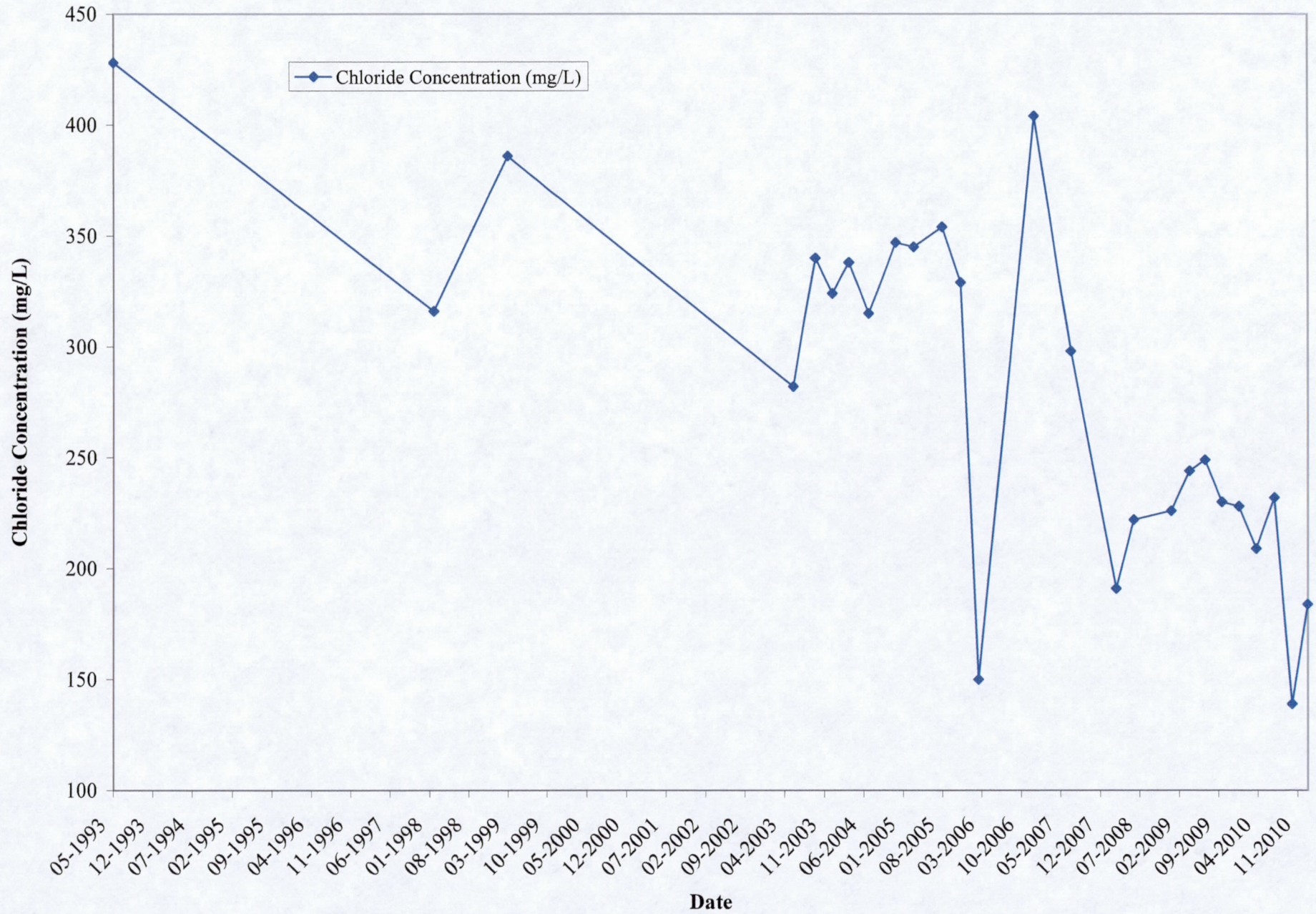


RW-4 Chloride Concentration Over Time



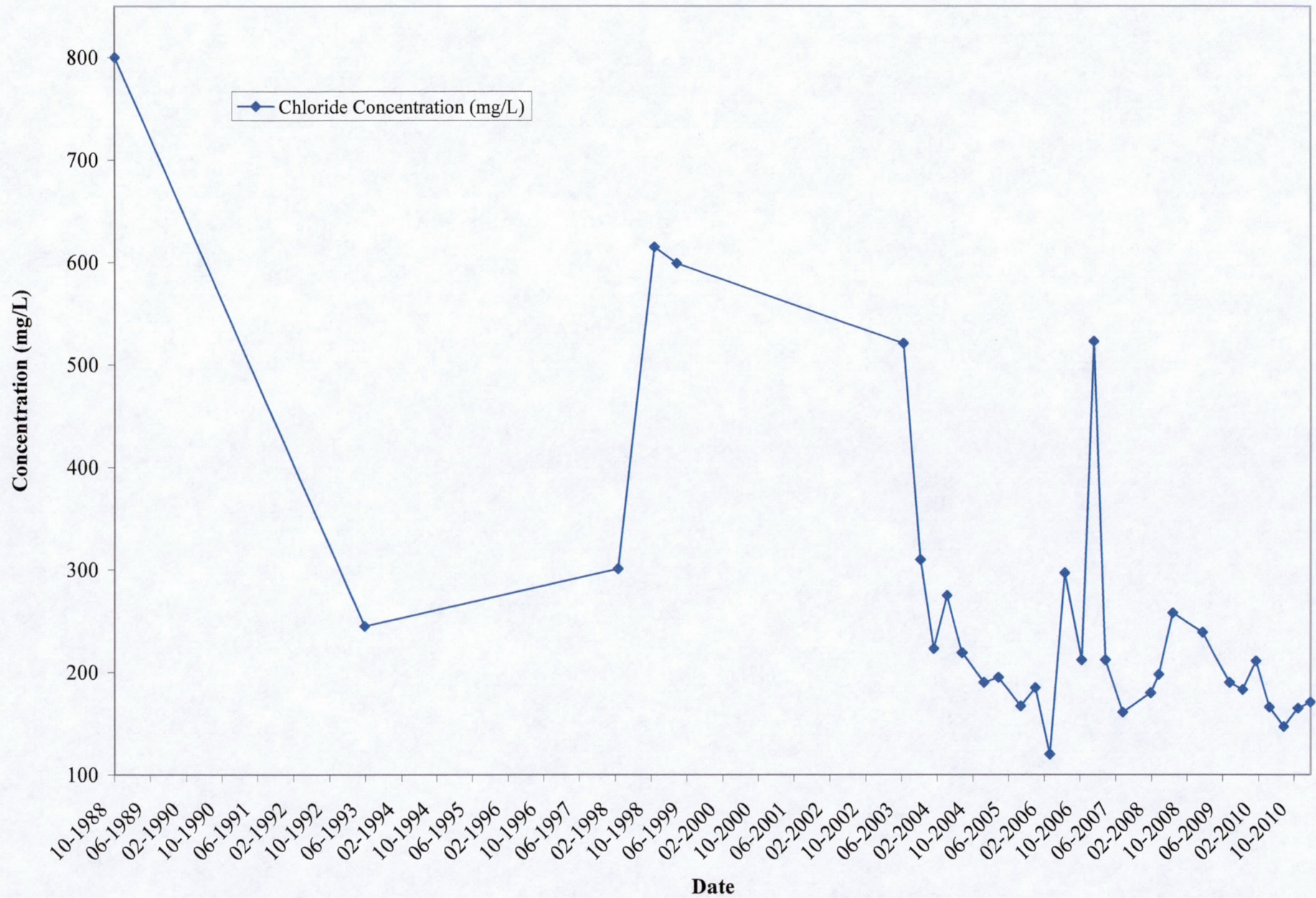


RW-5 Chloride Concentration Over Time





RW-6 Chloride Concentration (mg/L)





RW-7 Chloride Concentration Over Time

